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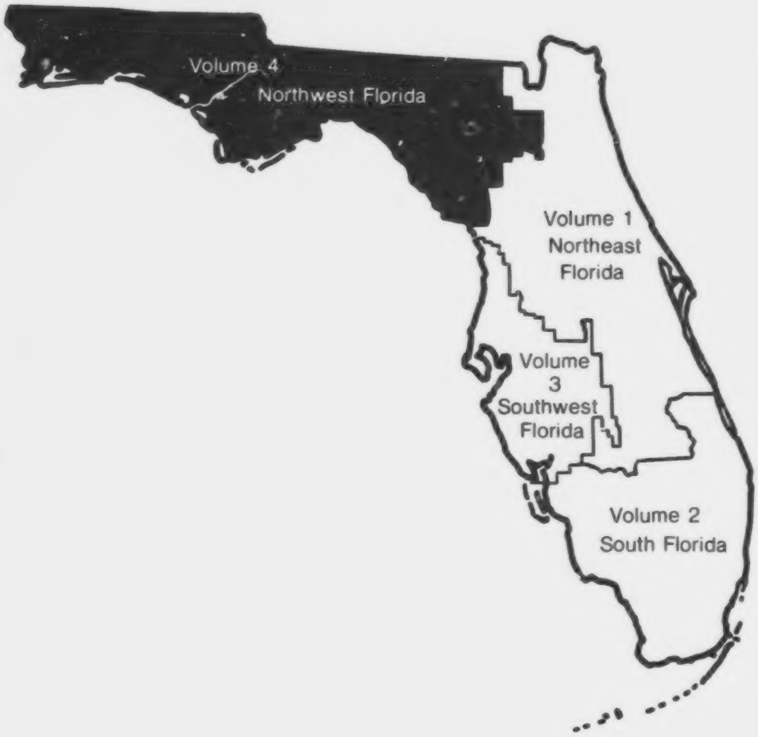
DEPARTMENT OF THE INTERIOR
March 3 1849

Water Resources Data Florida

Water Year 1989

Volume 4. Northwest Florida


Volume 4
Northwest Florida
Volume 1
Northeast
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Volume
3
Southwest
Florida
Volume 2
South Florida

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT FL-89-4
Prepared in cooperation with the State of Florida
and with other agencies

CALENDAR FOR WATER YEAR 1989

1988

OCTOBER

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1989

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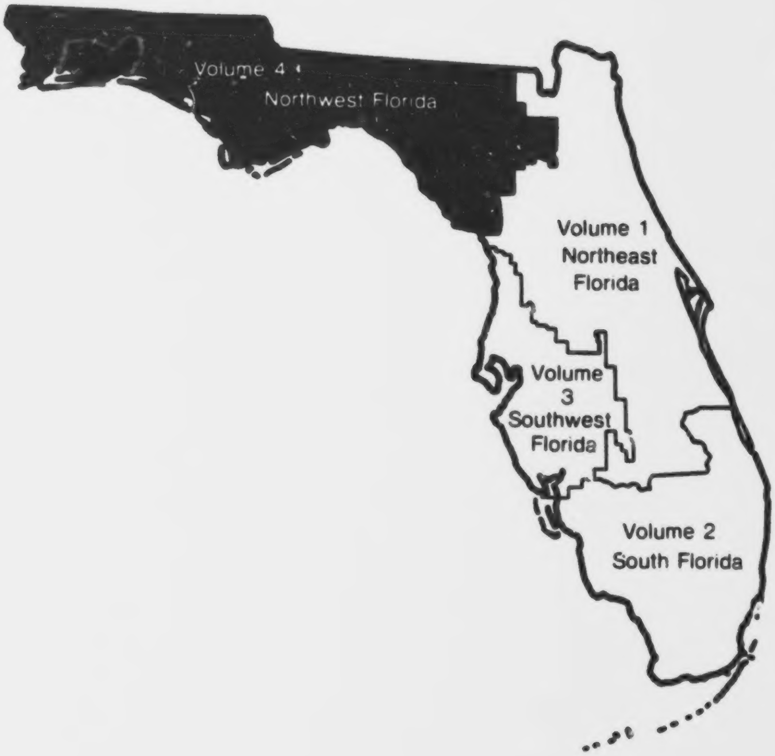
DEPARTMENT OF THE INTERIOR
March 3 1849

Water Resources Data Florida
Water Year 1989

Volume 4. Northwest Florida

by P.E. Meadows, J.B. Martin, and P.R. Mixson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and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, Jr., Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

Prepared in cooperation with the
State of Florida
and with other agencies as listed
under cooperation

For additional information write to
District Chief, Water Resources Division
U.S. Geological Survey
227 North Bronough Street, Suite 3015
Tallahassee, Florida 32301

1990

PREFACE

This volume of the annual hydrologic data report of Florida is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for Florida are contained in four volumes:

Volume 1. Northeast Florida
Volume 2. South Florida
Volume 3. Southwest Florida
Volume 4. Northwest Florida

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data. This report was prepared for publication by P. R. Mixson under the supervision of M. A. Franklin, J. B. Martin and P. E. Meadows. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established quidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data.

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L. L. Batts
J. G. Collins
J. D. Goin
G. T. Losey
J. B. Martin
P. E. Meadows
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15. Supplementary Notes

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16. Abstract (Limit: 200 words)

Water resources data for the 1989 water year in Florida consists of continuous or daily discharge for 295 streams, periodic discharge for 36 streams, miscellaneous discharge for 75 streams, continuous or daily stage for 154 streams, periodic stage for 13 streams, peak discharge for 57 streams, continuous daily tide stage for 12 sites, and peak stage for 30 streams; continuous or daily elevations for 73 lakes, periodic elevations for 72 lakes; continuous ground-water levels for 514 wells, periodic ground-water levels for 798 wells, and miscellaneous water-level measurements for 2687 wells; quality-of-water data for 149 surface-water sites and 827 wells.

The data for northwest Florida include continuous or daily discharge for 51 streams, periodic discharge for 3 streams, miscellaneous discharge for 41 streams, continuous or daily stage for 11 streams, peak discharge for 25 streams; continuous or daily elevations for 6 lakes, and periodic elevations for 3 lakes; continuous ground-water levels for 12 wells, and periodic ground-water levels for 140 wells, and quality of water for 20 surface-water sites and 25 wells.

These data represent the National Water Data System records collected by the U.S. Geological Survey and cooperating local, State, and Federal agencies in Florida.

17. Document Analysis a. Descriptors

*Florida, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water levels, Water analyses, Elevations, Water wells

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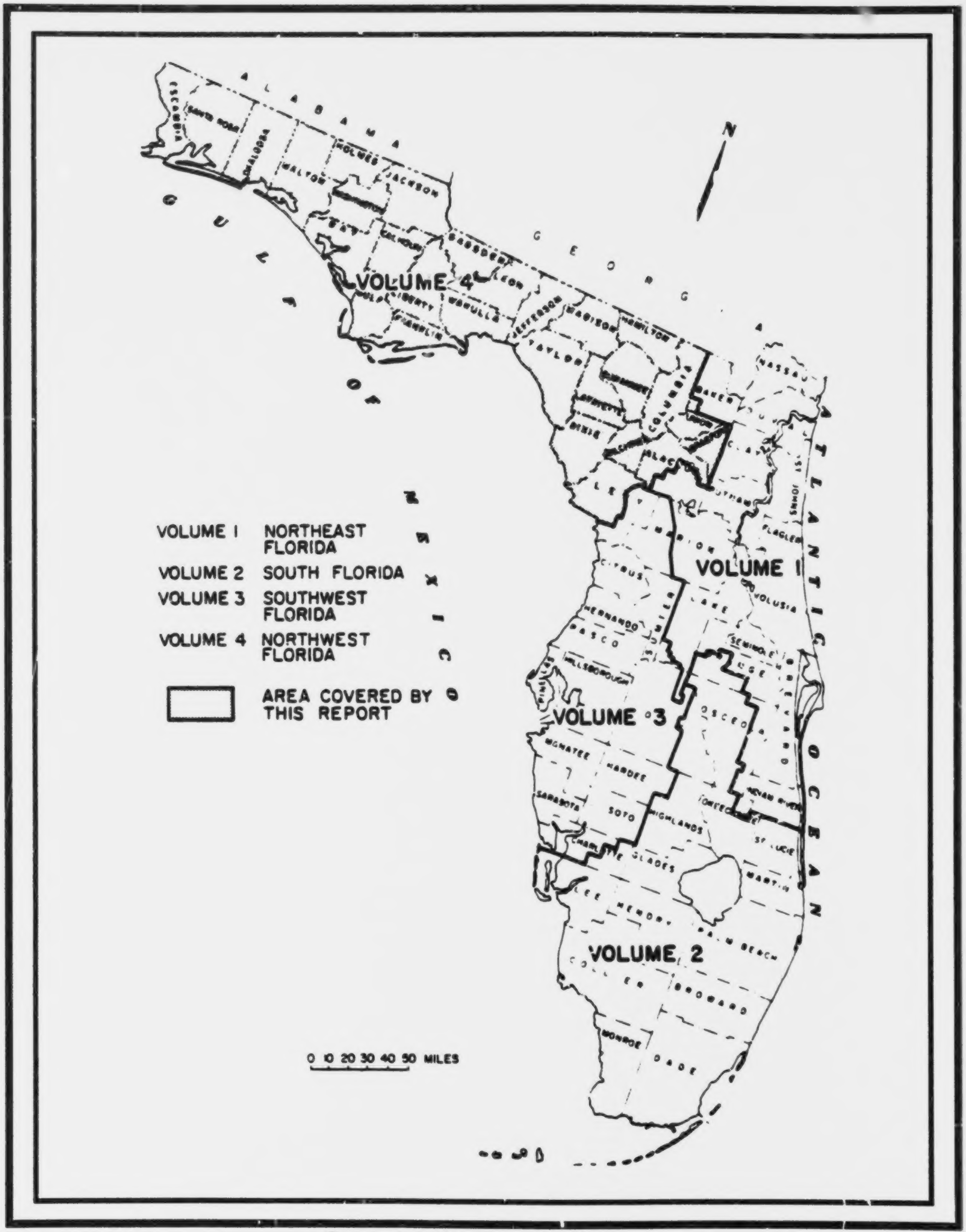
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OSCEOLA
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MANATEE
HARDEE
SARASOTA
DE SOTO
HIGHLANDS
OKEECHOBEE
INDIAN RIVER
ST LUCIE
CHARLOTTE
GLADES
MARTIN
LEE
HENDRY
PALM BEACH
COLLIER
BROWARD
MONROE
DADE
VOLUME 1 NORTHEAST FLORIDA
VOLUME 2 SOUTH FLORIDA
VOLUME 3 SOUTHWEST FLORIDA
VOLUME 4 NORTHWEST FLORIDA
AREA COVERED BY THIS REPORT
0 10 20 30 40 50 MILES

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(c) chemical, (b) biological, (m) microbiological, (s) sediment, (t) temperature,
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LEON COUNTY
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302321084473501 211

MADISON COUNTY

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OKALOOSA COUNTY

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SANTA ROSA COUNTY

302135087094501 226
302409086523501 226
303521087064001 227
304102086495501 227
305121086511301 228
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TAYLOR COUNTY

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UNION COUNTY

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WAKULLA COUNTY

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300740084293001 235

WALTON COUNTY

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302442086130701 241
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302935086074501 244
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303426086061101 245
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WASHINGTON COUNTY

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INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State, local, and Federal agencies, obtains a large amount of data pertaining to the water resources of Florida each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - Florida."

This report series includes records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground-water wells. This volume contains records for continuous or daily discharge for 51 streams, periodic discharge for 3 streams, miscellaneous discharge for 41 streams, continuous or daily stage for 11 streams, and peak discharge for 25 streams; continuous or daily elevations for 6 lakes, and periodic elevations for 3 lakes; continuous ground-water levels for 12 wells, and periodic ground-water levels for 140 wells; quality-of-water for 20 surface-water sites and 25 wells.

This series of annual reports for Florida began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Florida were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from Distribution Branch, Text Products Section, U.S. Geological Survey, Books and Open-File Reports, Federal Center, Building 41, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report FL-89-4." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the Office Chief at the address given on the back of the title page or by telephone (904) 681-7620.

COOPERATION

The U.S. Geological Survey and agencies of the State of Florida have had cooperative agreements for the collection of water-resource records since 1930. Organizations that assisted in collecting the data in this report through cooperative agreement with the Survey are:

Florida Department of Environmental Regulation
Northwest Florida Water Management District
Suwannee River Water Management District
County of Leon
County of Walton
City of Perry
City of Tallahassee
Corps of Engineers, U.S. Army, Mobile District
U.S. Bureau of Land Management

Assistance with funds or services was given by the U.S. Army Corps of Engineer, Mobile District, in collecting records for 8 hydrologic gaging stations throughout northwest Florida.

SUMMARY OF HYDROLOGIC CONDITIONS

Rainfall

Rainfall for Northwest Florida was below average for the 1989 water year with the exception of the western panhandle around Pensacola, where rainfall was well above normal. Based on six National Oceanic and Atmospheric Administration stations; Cross City, Lake City, Madison, Tallahassee, Chipley and Pensacola, total rainfall for the 12-month period ranged from 37.39 inches at Madison to 65.82 inches at Pensacola. The cumulative monthly departure for the water year ranged from +4.66 inches at Pensacola to -15 inches at Madison. Rainfall was not evenly distributed throughout the year however, with the first half of the water year being well below normal over the entire region. Rainfall distribution varied areally during the second half of the water year with the panhandle receiving well above normal rainfall while the eastern part of the region continued to be well below normal. A violent storm, with tornadoes and torrential rain, moved across the area June 8-9 with 24-hour rainfall totals in excess of 17 inches in parts of the panhandle. The following summary gives the cumulative rainfall and departure from the 30 year (1951-80) normal for each of the stations.

	October - March		April - September		Water Year	
STATION	Total Rain	Departure	Total Rain	Departure	Total Rain	Departure
Cross City	15.84	- 3.65	34.67	- 2.52	50.51	- 6.17
Lake City	12.98	- 7.01	31.23	- 3.02	44.21	-10.03
Madison	12.72	- 9.13	24.67	- 5.88	37.39	-15.01
Tallahassee	15.34	-10.91	43.30	+ 4.96	58.64	- 5.95
Chipley	13.32	-12.22	43.37	+11.63	56.69	- 0.59
Pensacola	18.96	- 7.16	46.86	+11.82	65.82	+ 4.66

Surface Water

Annual mean streamflow for the 1989 water year in Northwest Florida ranged from 16 to 137 percent of the long-term average. Those streams with above normal flows were the areas hit hardest by the June storms. Annual mean flows in the panhandle generally were normal to 37 percent above normal. Mean flow for streams from the Big Bend area ranged from 30 to 60 percent below normal with the exception of the Fenholloway River which was 85 percent below normal. The Suwannee River Basin ranged from 50 to 85 percent below the long-term average.

Streamflows in the Suwannee River Basin and coastal area around Steinhatchee and Perry began the water year near the long-term average. Streamflows steadily declined through the winter and spring wet season and were approaching minimum flows when the summer rains began in June. Even though the summer rainy season was below normal, sufficient rainfall to reverse the downward streamflow trends occurred. In the Ochlockonee River basin and areas around Tallahassee, streamflows were well below normal at the beginning of the water year. This trend continued until June when heavy rains caused a rapid recovery to near maximum monthly mean flows for July. Streamflow in the area had returned to near normal by the end of the water year. Streamflow in the panhandle which started the year near normal continued to range around average until the large June and July storms. The Escambia River was an exception, declining from normal to a new record low monthly flow in February. As a result of the well above-average rainfall in June and July, most streams approached or reached new record monthly mean flows during those months

Figures 2-8 present discharge hydrographs for some representative streams in northwest Florida. The upper graph shows the 1989 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period of record. The lower graph shows the monthly mean discharge for the period 1980-1989.

Ground Water

Water levels in wells open to the Floridian aquifer system began the water year near mean levels, except in the Big Bend where levels were well below normal. Water levels generally declined from October until June when some recovery occurred as a result of the above average rainfall. The major exception being the eastern part of the area which continued to decline and reached new record lows.

Water levels in the southern coastal part of the area are reflected by the USGS well near Trenton where levels had declined from above average in October to well below averages by August. Although some recovery occurred in September, water levels were still below normal. Water levels throughout almost all the Suwannee Basin are reflected by the hydrograph for the Lake City well where new record lows were set from June through September. The Lake Jackson well is typical of wells in the Big Bend area where water levels began the year well below normal. This trend continued with new record low water levels from February through May. Although some recovery occurred, average levels were not reached. Water levels in the panhandle were near normal except for the last quarter of the water year when period of record high levels were approached.

Figures 9-10 present water-level hydrographs for some representative wells in the northwest Florida area. The graphs show the 1989 monthly mean maximum water level compared to the maximum, minimum, and mean monthly maximum water level for the period of record.

Surface-Water Quality

Specific conductance and total phosphorus concentration were selected as measures of ambient water-quality conditions. Specific conductance is a function of dissolved substances (see definition of terms). The average specific conductance by water year for three major rivers in northwest Florida is shown in figure 11. The average specific conductance for the 1989 water year was 280 µS/cm (microsiemens per centimeter) for the site on Suwannee River; 118 µS/cm for the site on Apalachicola River; and 119 µS/cm for the site on Escambia River. The average specific conductance for the 1989 water year was greater than the long-term average (230 µS/cm) for the Suwannee River, (95 µS/cm) for the Apalachicola River and (84 µS/cm) for the Escambia River. The average specific conductance for the three monitoring sites does not indicate persistent trends as a function of time. The apparent variation in average specific conductance among water years for the Suwannee River is likely caused by variable mixes of springflow (ground water) and overland runoff.

Phosphorus is an important primary nutrient for aquatic plants and long-term changes in phosphorus concentrations may indicate effects of land-use change within a stream drainage basin. The average concentrations of total phosphorus by water year for three major rivers are shown in figure 12. The average total phosphorus concentration for the 1989 water year was 0.18 mg/L (milligrams per liter) for the Suwannee River and about 0.03 mg/L for the Apalachicola and Escambia Rivers. The average concentrations of phosphorus for the 1989 water year were about the same as the long-term averages and no persistent trend with time is evident. The phosphorus concentrations for the Apalachicola and Escambia Rivers are consistently less than 0.1 mg/L. For the Suwannee River total phosphorus ranges from 0.15 to 0.20 mg/L. The greater concentrations in the Suwannee River are likely the result of naturally occurring phosphate-bearing rock in the drainage basin.

SUMMARY OF HYDROLOGIC CONDITIONS.--Continued

Ground-Water Quality

Changes in the quality of ground water can be identified from changes in concentrations of chloride at long-term monitoring wells. Chloride concentrations in water from the Selma Madara well near Freeport in Walton County, a 250-foot deep, Floridan aquifer system well, are shown in figure 13. The chloride concentration in water from the Selma Madara well ranged from 99 to 100 mg/L and averaged 100 mg/L during the 1989 water year. A notable decrease in chloride concentration is indicated since monitoring began at this well in the early 1970's. Chloride concentrations in water from the Mary Esther well number 2 at Mary Esther in Okaloosa County, a 764-foot deep, Floridan aquifer system well, are shown in figure 14. Chloride concentrations during the 1989 water year ranged from 57 to 58 mg/L in water from the Mary Esther well. Prior to the 1988 water year, chloride concentrations ranged from 50 to 63 mg/L. Thus, no long-term change in chloride concentrations in water from the Mary Esther monitoring well is indicated.

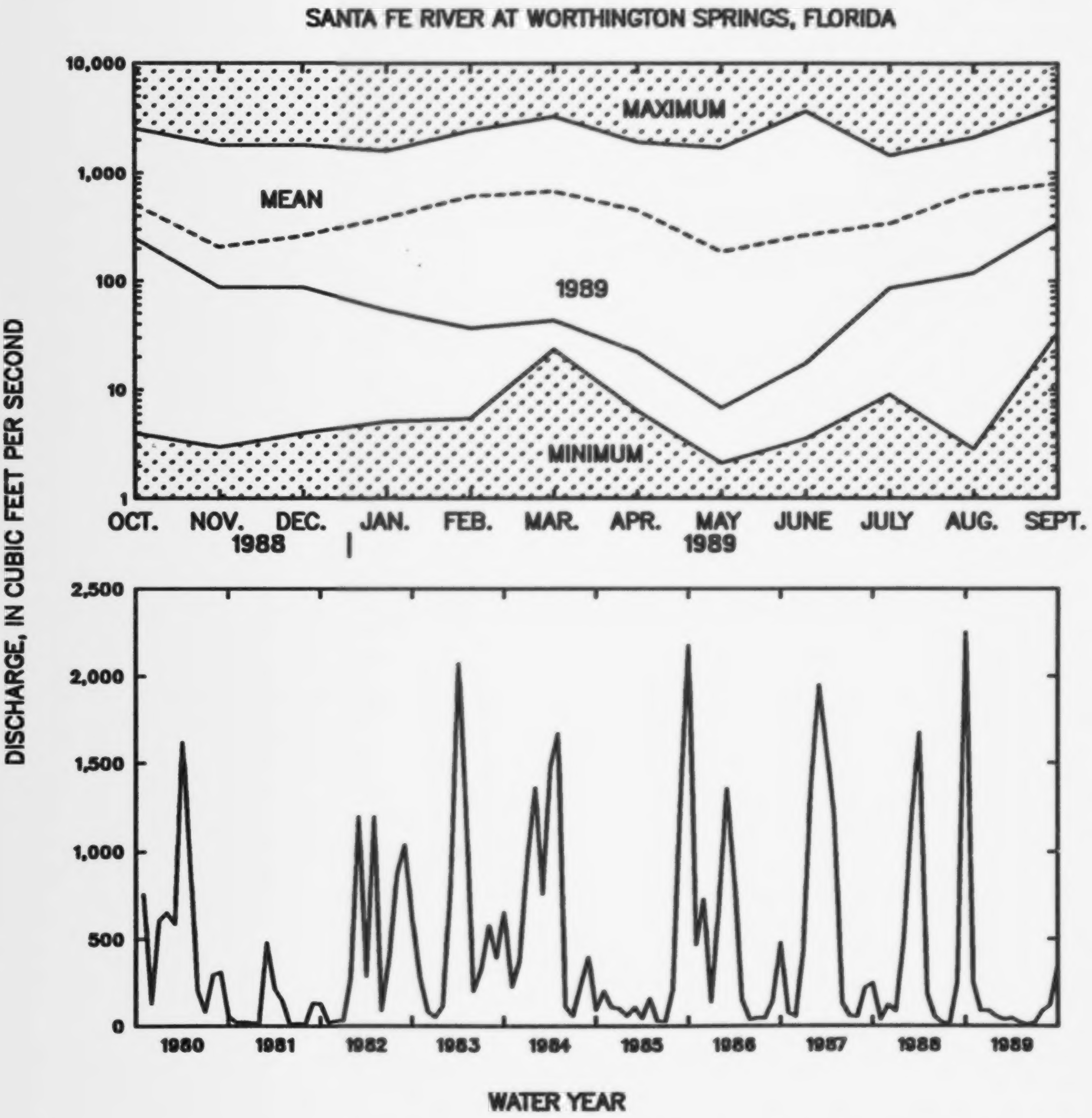


Figure 2 .--Monthly mean discharge for the 1989 water year; maximum, minimum, and mean monthly mean discharge for the pesriod of record; and the monthly mean discharge for the period 1980-89, Santa Fe at Worthington Springs.

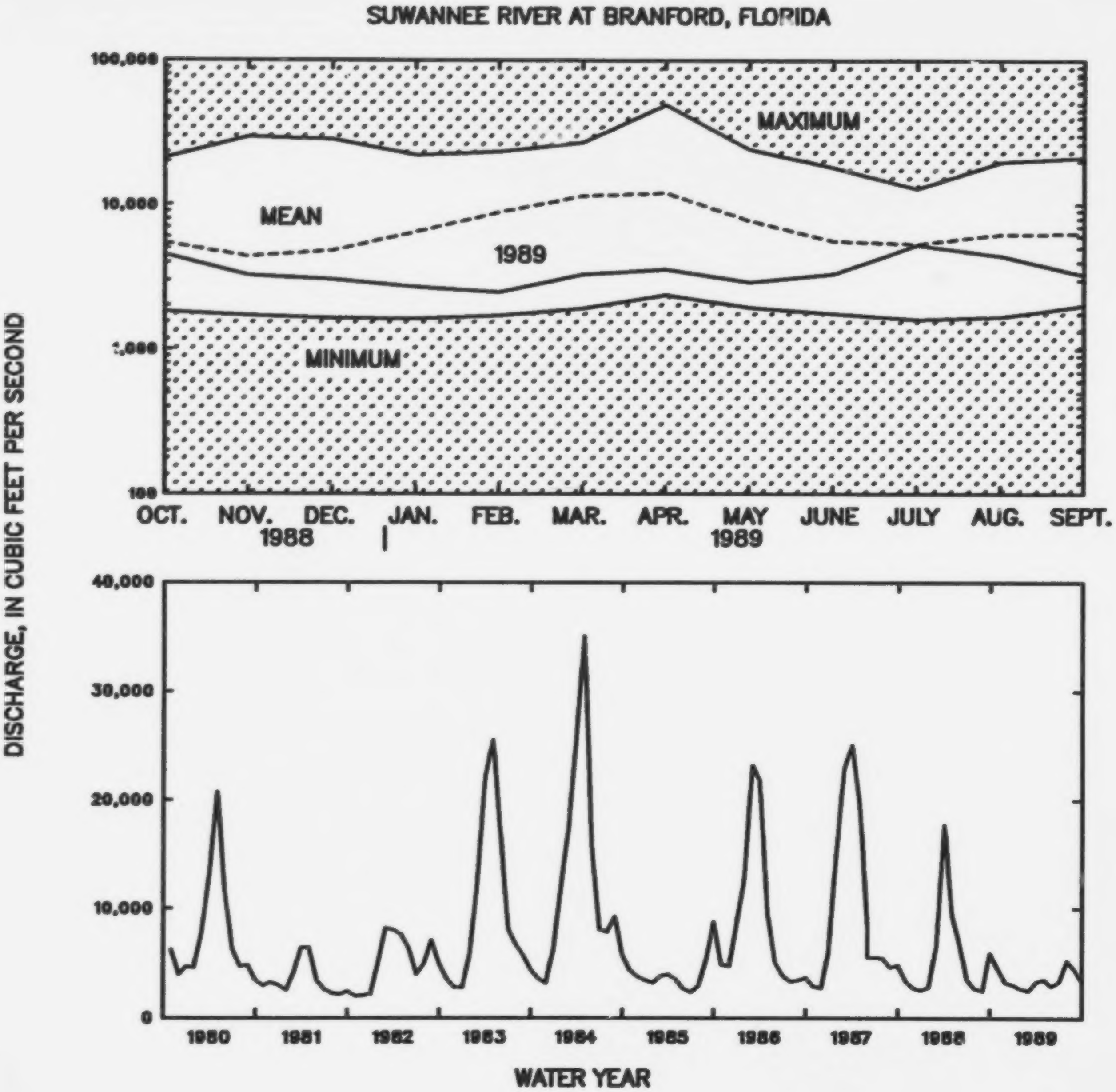


Figure 3 .--Monthly mean discharge for the 1989 water year; maximum, minimum, and mean monthly mean discharge for the period of record; and the monthly mean discharge for the period 1980-89, Suwannee River at Branford.

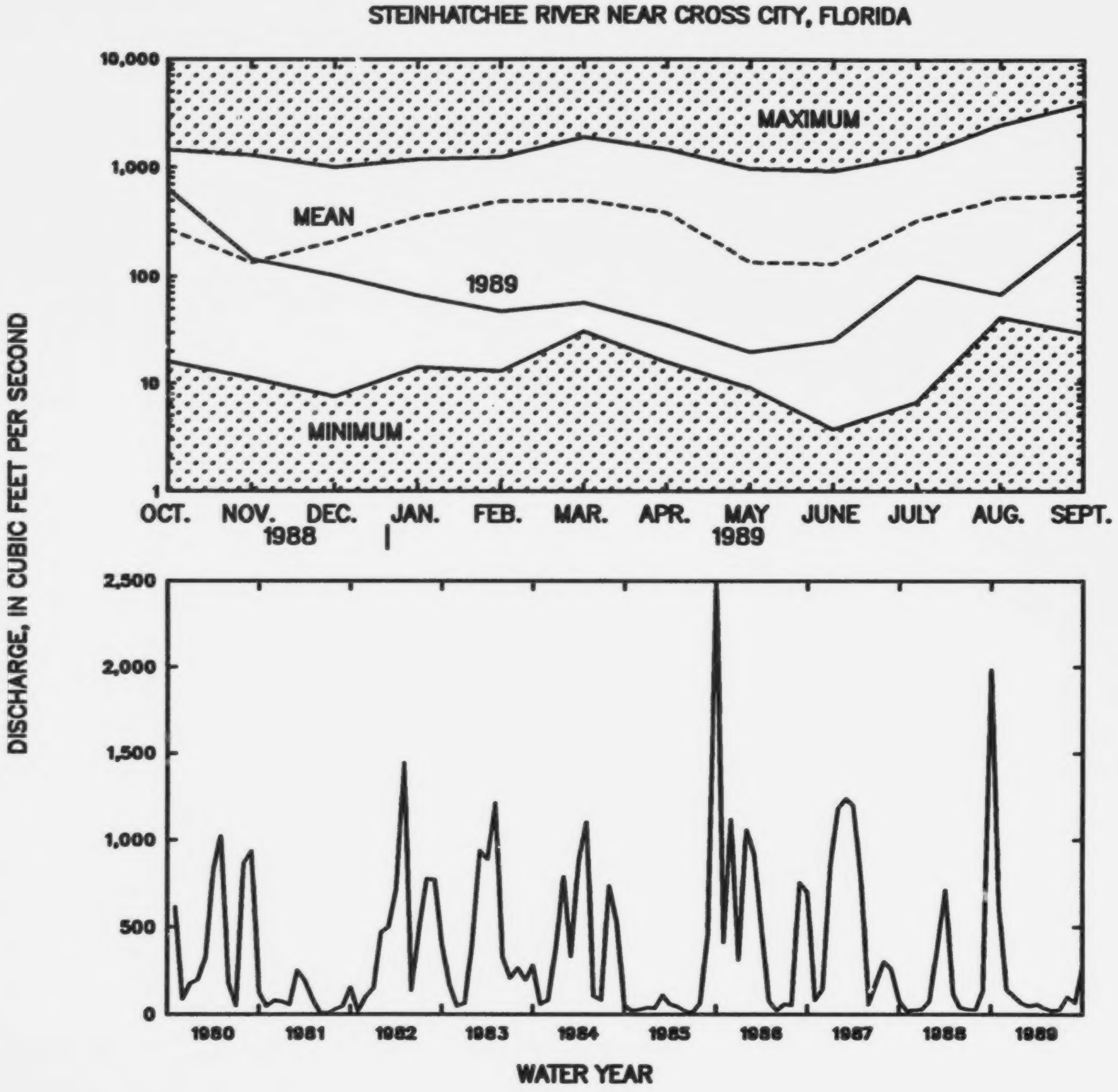


Figure 4 .--Monthly mean discharge for the 1989 water year; maximum, minimum, and mean monthly mean discharge for the period of record; and the monthly mean discharge for the period 1980-89, Steinhatchee River near Cross City.

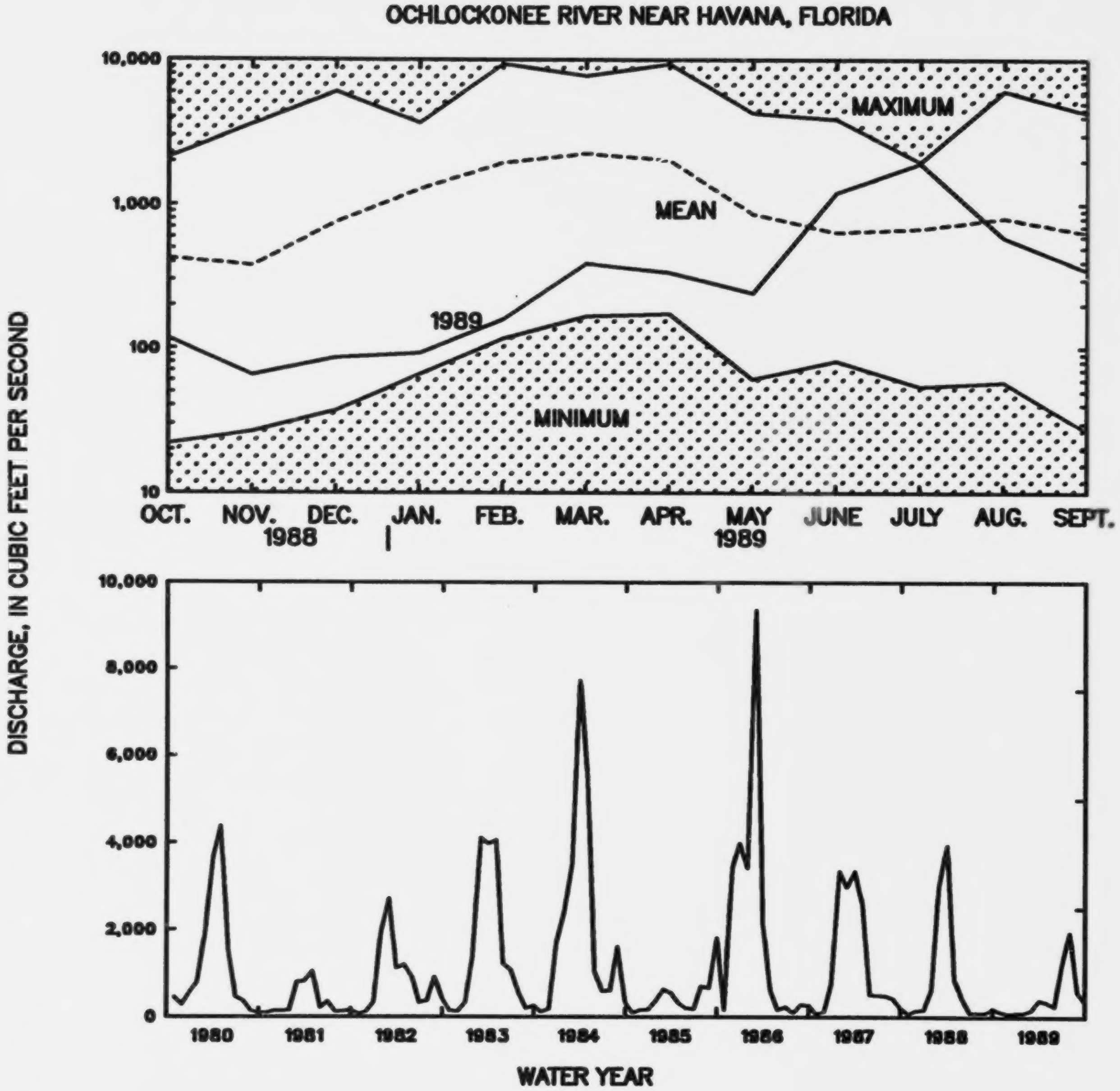


Figure 5 .--Monthly mean discharge for the 1989 water year; maximum, minimum, and mean monthly mean discharge for the period of record; and the monthly mean discharge for the period 1980-89, Ochlockonee River near Havana.

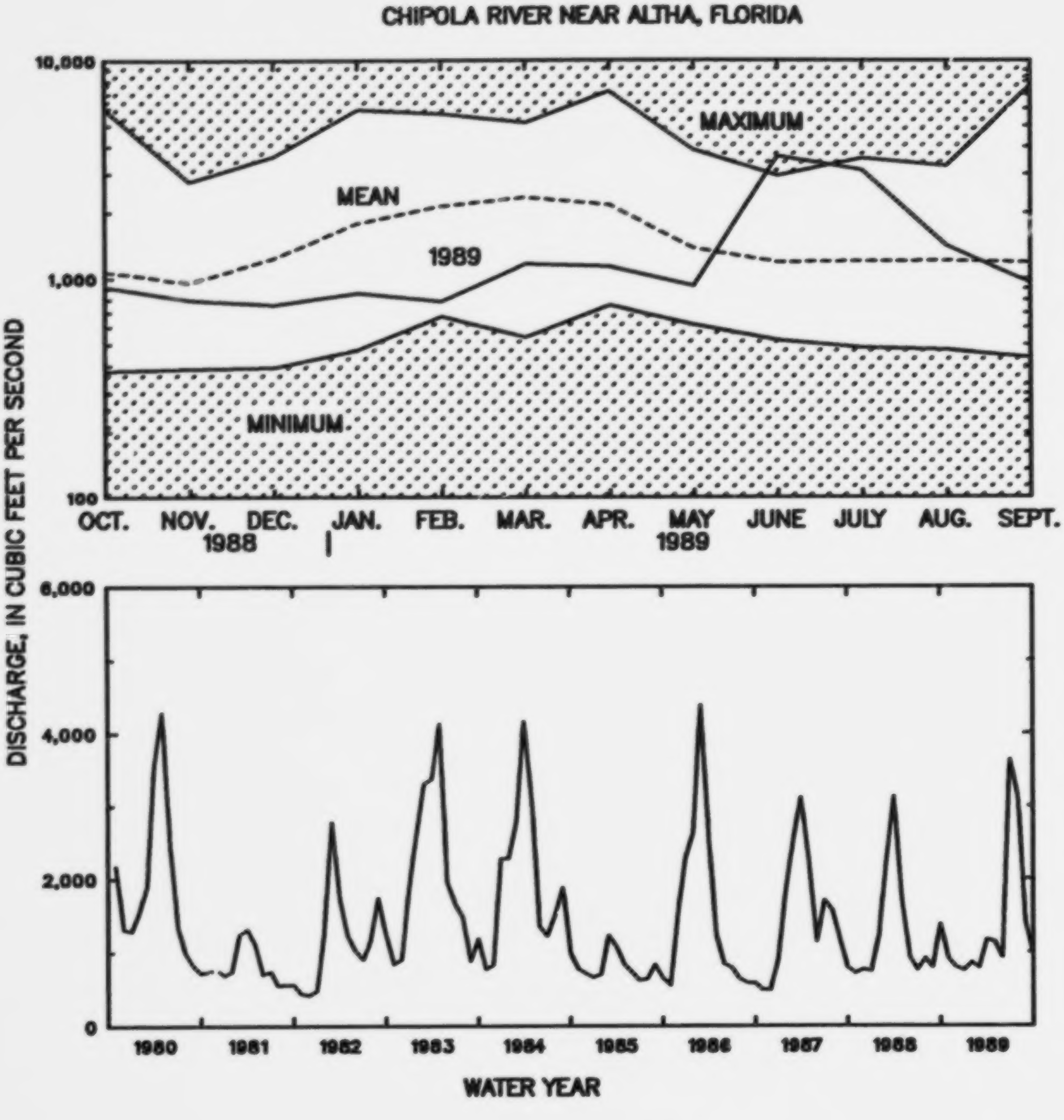


Figure 6 .--Monthly mean discharge for the 1989 water year; maximum, minimum, and mean monthly mean discharge for the period of record; and the monthly mean discharge for the period 1980-89, Chipola River near Altha.

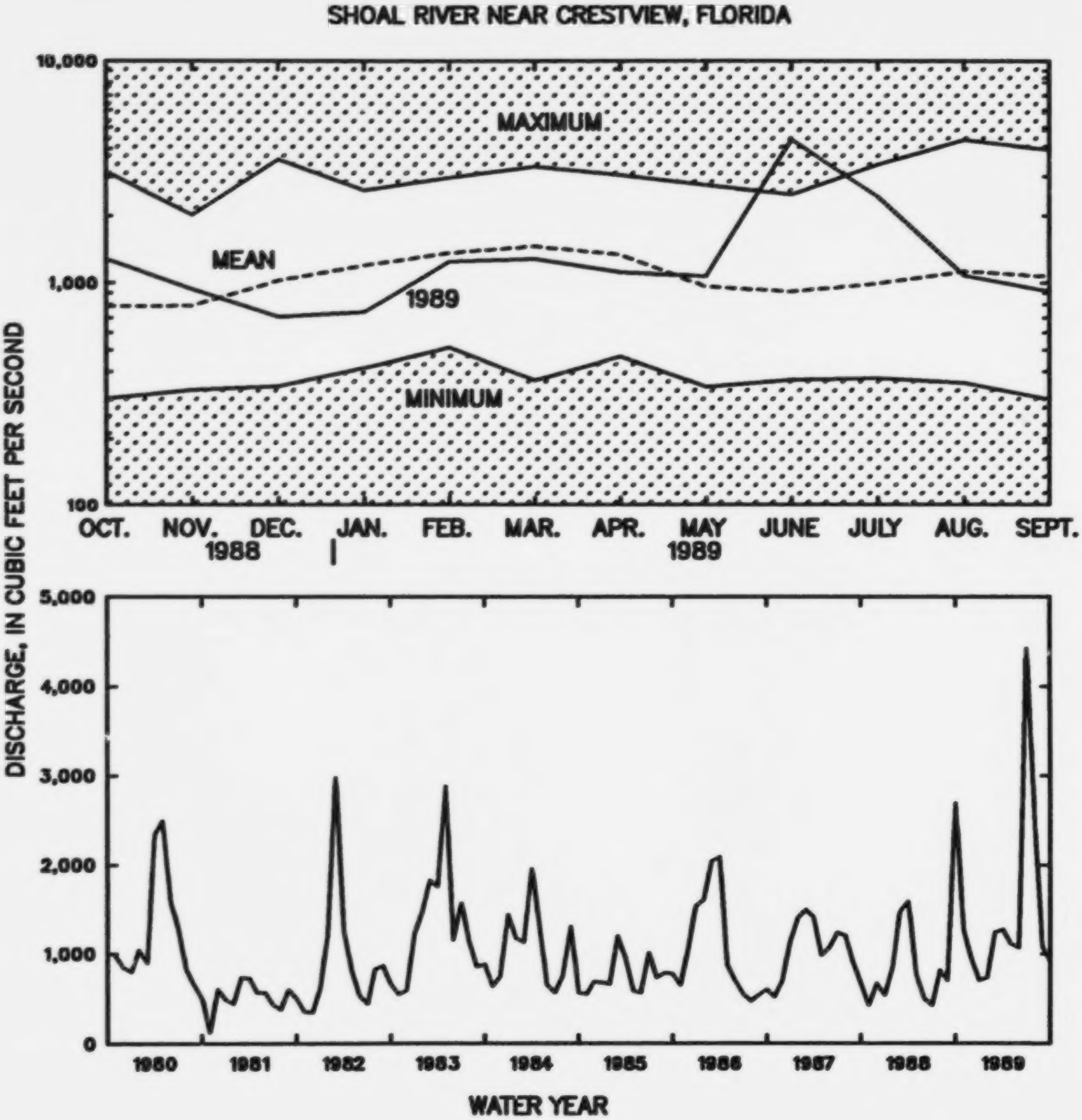


Figure 7 .--Monthly mean discharge for the 1989 water year; maximum, minimum, and mean monthly mean discharge for the period of record; and the monthly mean discharge for the period 1980-89, Shoal River near Crestview.

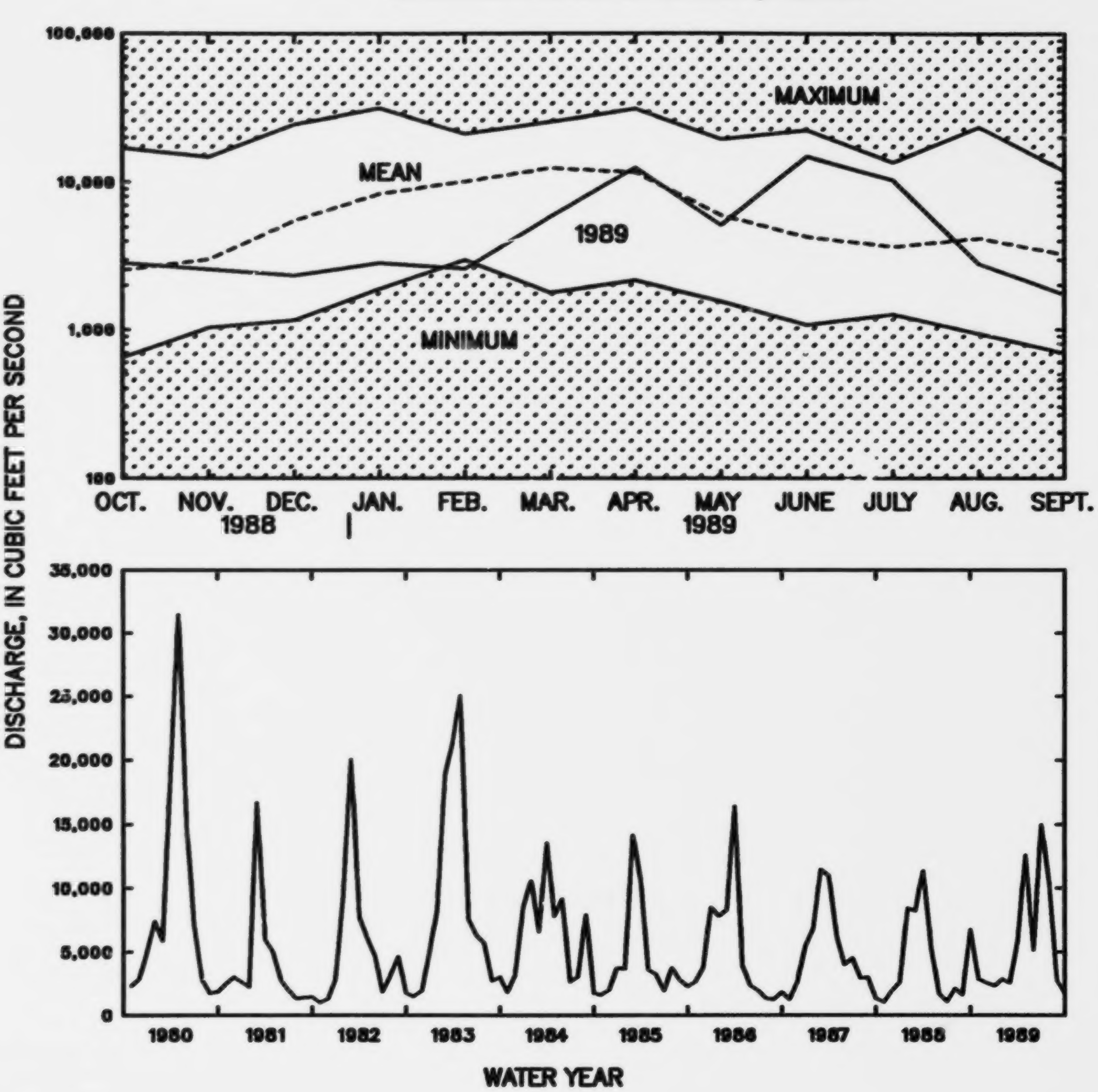


Figure 8.--Monthly mean discharge for the 1989 water year; maximum, minimum, and mean monthly mean discharge for the period of record; and the monthly mean discharge for the period 1980-89, Escambia River near Century.

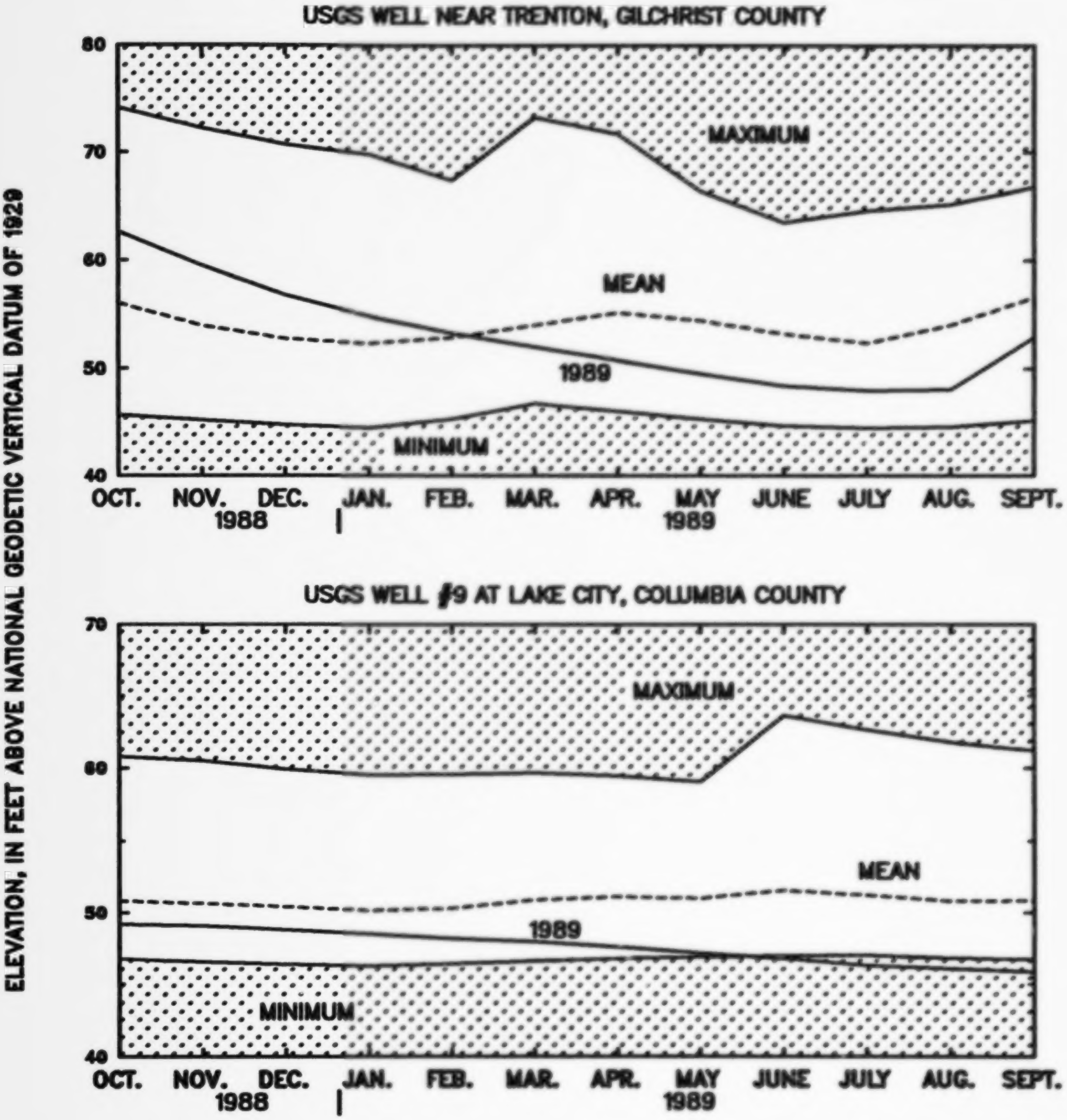


Figure 9.--Monthly mean maximum water level for the 1989 water year and maximum, minimum, and mean monthly maximum water level for the period of record for a USGS well near Trenton, Gilchrist County, and USGS well #9 at Lake City, Columbia County.

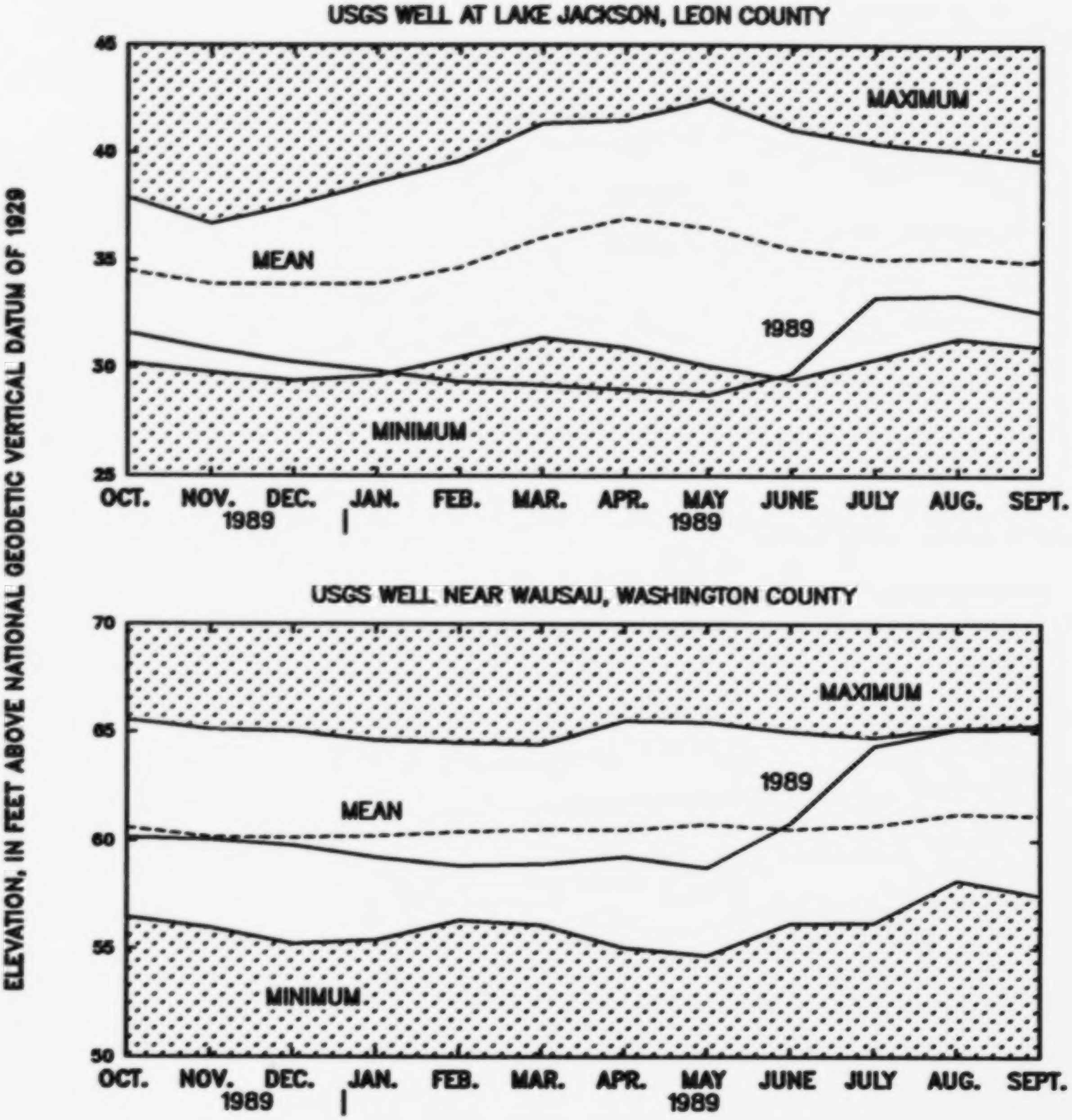


Figure 10.--Monthly mean maximum water level for the 1989 water year and maximum, minimum, and mean monthly maximum water level for the period of record for a USGS well at Lake Jackson, Leon County, and a USGS well near Wausau, Washington County.

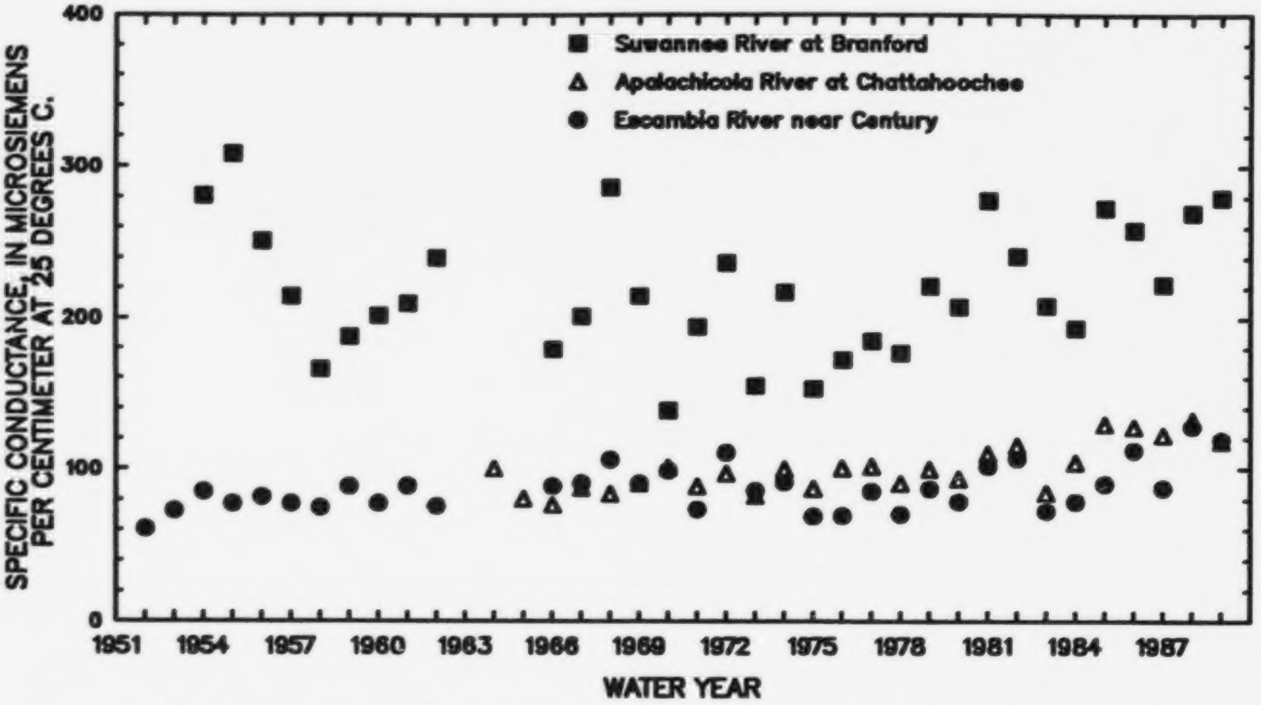


Figure 11 .--Annual average specific conductance at sites on Suwannee, Apalachicola, and Escambia Rivers, 1951-89.

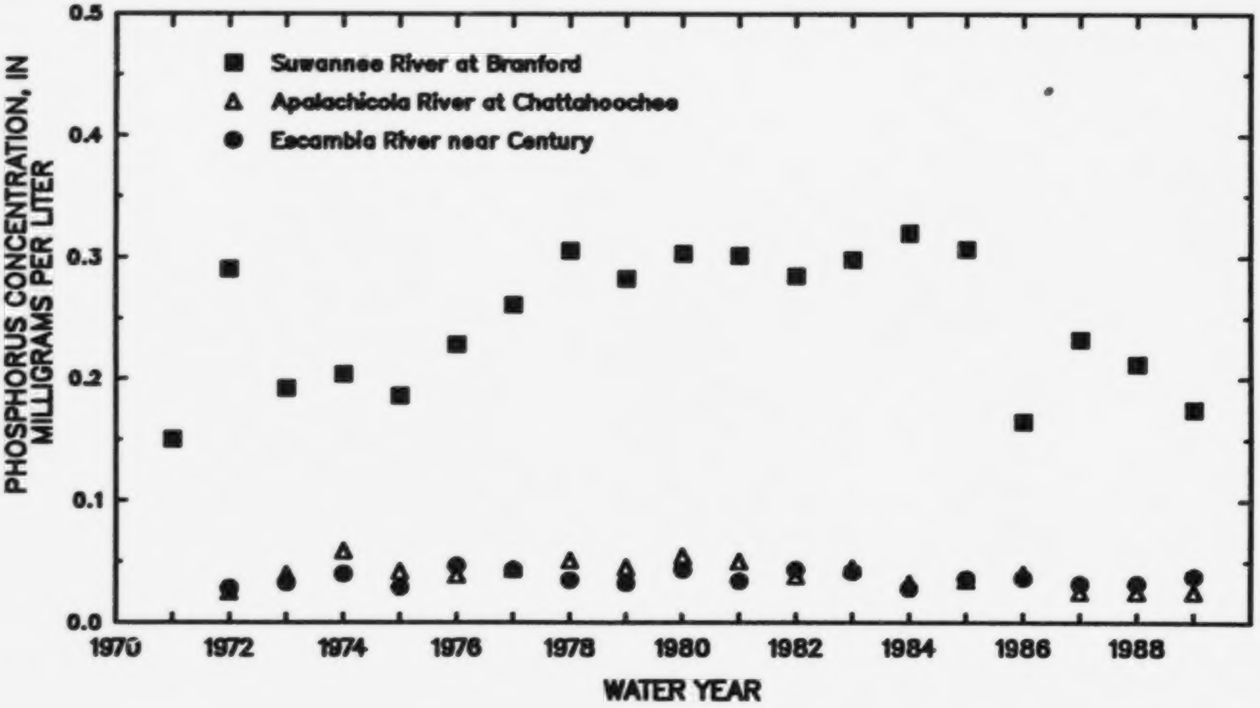


Figure 12 .--Annual average total phosphorus concentrations at sites on Suwannee, Apalachicola, and Escambia Rivers, 1970-89.

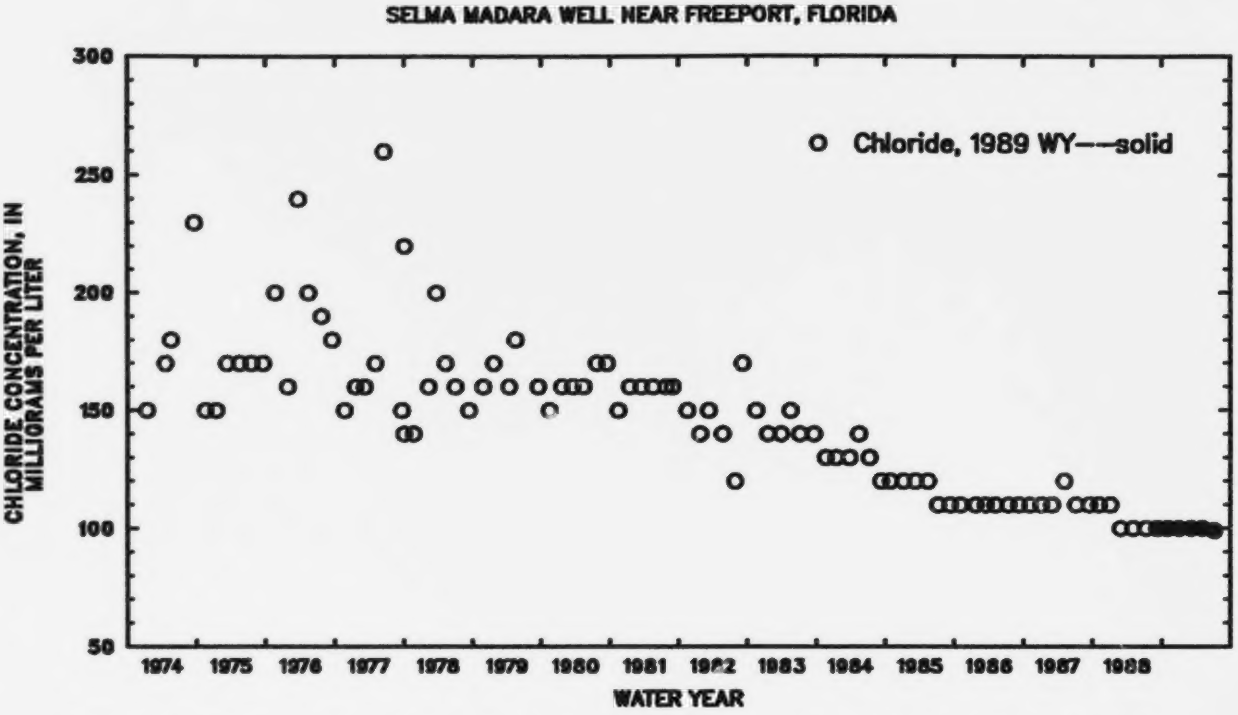


Figure 13.--Chloride concentrations in water from Selma Madara well near Freeport (well number 302721086101401) 1974-89.

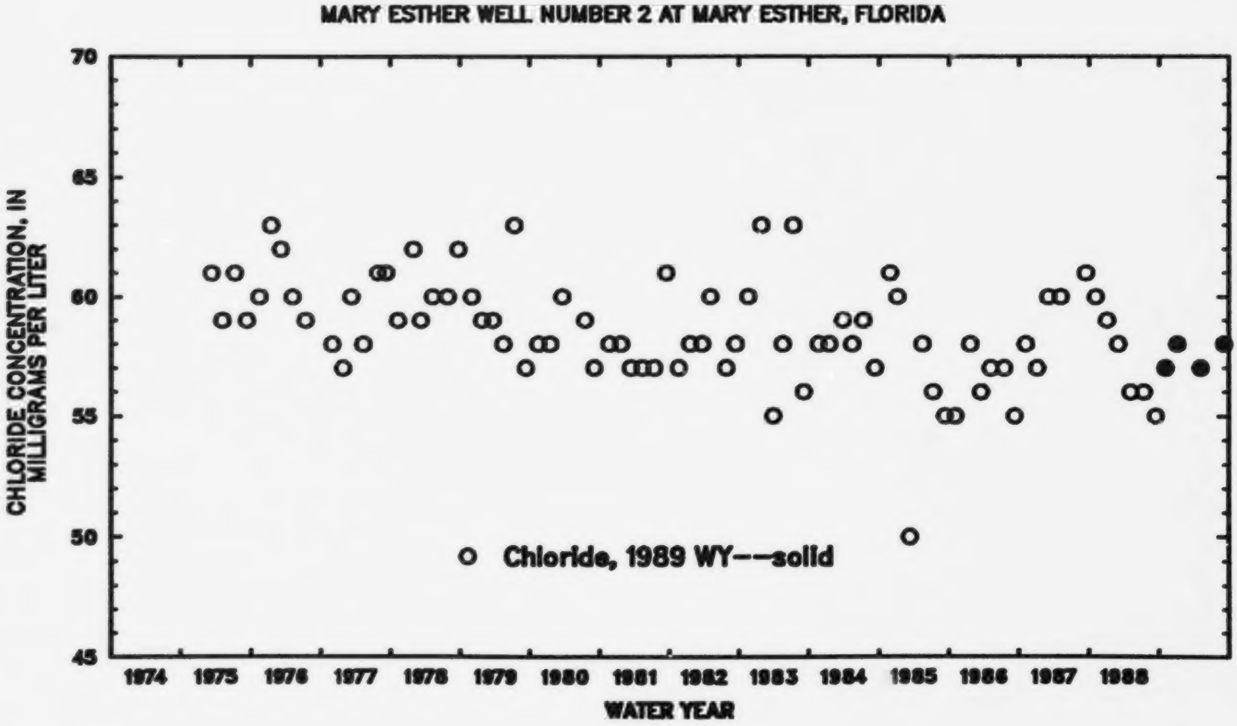


Figure 14.--Chloride concentrations in water from Mary Esther well number 2 at Mary Ester (well number 302442086394001) 1974-89.

SPECIAL NETWORKS AND PROGRAMS

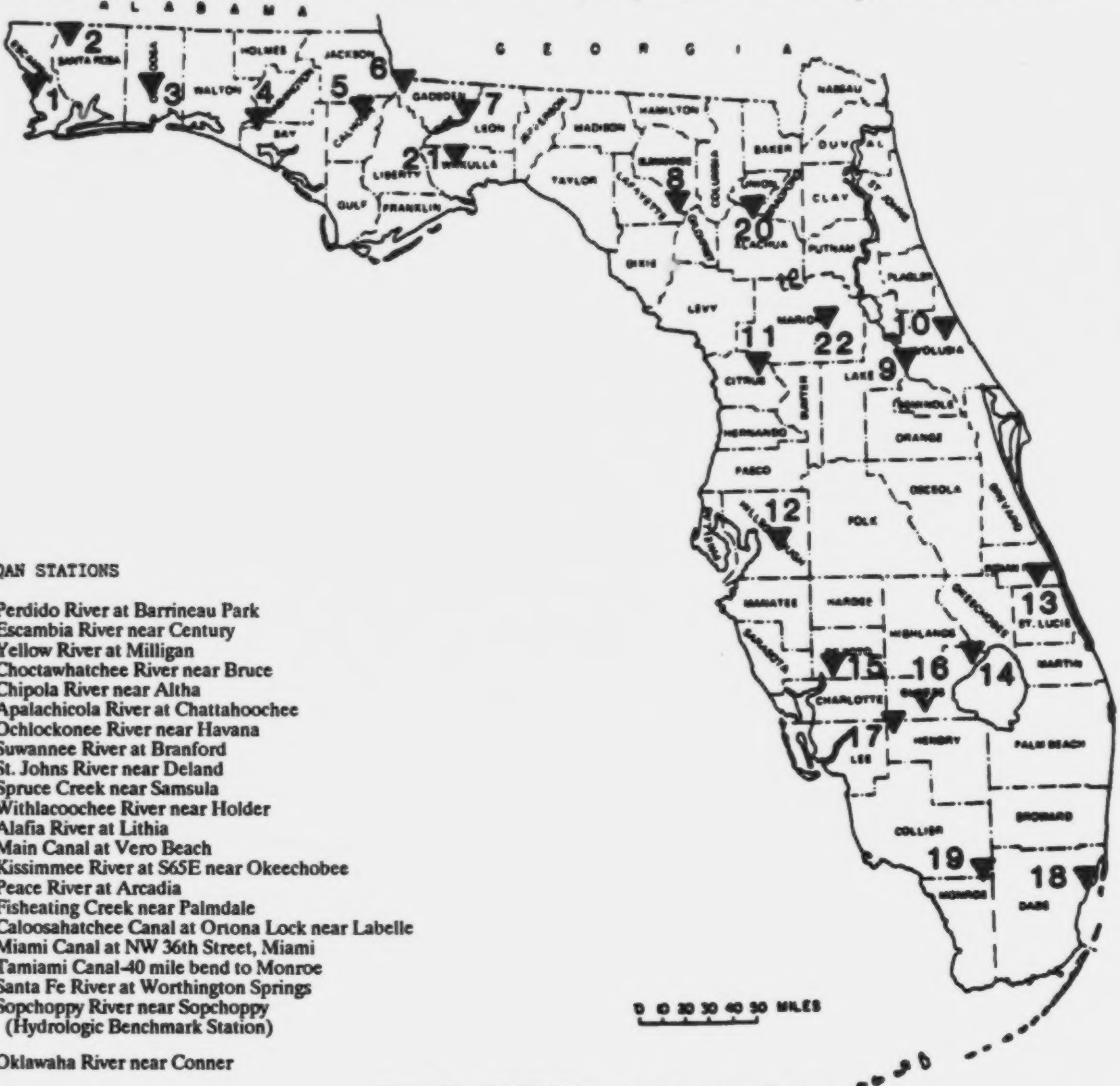
Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research. The NASQAN stations are shown in Figure 15.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

Radiochemical Program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Tritium Network is a network of stations that has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.


ALABAMA
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CALHOUN
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LEON
LIBERTY
WAKULLA
BAY
GULF
FRANKLIN
TAYLOR
MADISON
HAMILTON
SUWANNEE
COLUMBIA
BAKER
NASSAU
DUVAL
CLAY
PUTNAM
ALACHUA
FLAGLER
DIXIE
LEVY
MARION
VOLUSIA
LAKE
CITRUS
SUMTER
HERNANDO
SEMINOLE
ORANGE
PASCO
OSCEOLA
POLK
MANATEE
HARDEE
HIGHLANDS
ST. LUCIE
MARTIN
CHARLOTTE
LEE
HENDRY
PALM BEACH
BROWARD
COLLIER
MONROE
DADE
0 10 20 30 40 50 MILES

NASQAN STATIONS

1. Perdido River at Barrineau Park
2. Escambia River near Century
3. Yellow River at Milligan
4. Choctawhatchee River near Bruce
5. Chipola River near Altha
6. Apalachicola River at Chattahoochee
7. Ochlockonee River near Havana
8. Suwannee River at Branford
9. St. Johns River near Deland
10. Spruce Creek near Samsula
11. Withlacoochee River near Holder
12. Alafia River at Lithia
13. Main Canal at Vero Beach
14. Kissimmee River at S65E near Okeechobee
15. Peace River at Arcadia
16. Fisheating Creek near Palmdale
17. Caloosahatchee Canal at Ortona Lock near Labelle
18. Miami Canal at NW 36th Street, Miami
19. Tamiami Canal-40 mile bend to Monroe
20. Santa Fe River at Worthington Springs
21. Sopchoppy River near Sopchoppy
    (Hydrologic Benchmark Station)

22. Oklawaha River near Conner

Figure 15 .--NASQAN stations in the State of Florida.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1989 water year that began October 1, 1988, and ended September 30, 1989. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and for surface-water stations where only miscellaneous measurements are made.

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indention in the "List of Stations" in the front of this report. Each indention represents one rank. This downstream order and system of indention shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete number for each station, such as 02326500, which appears just to the left of the station name, includes the two-digit Part number "02" plus the 6 to 13 digit downstream-order number "326500." The part number refers to an area whose boundaries coincide with natural drainage lines; for example, Part "02" is the South Atlantic Slope and eastern Gulf of Mexico basins.

Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. This site-identification number, once assigned, is a unique number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description. (See figure below.)

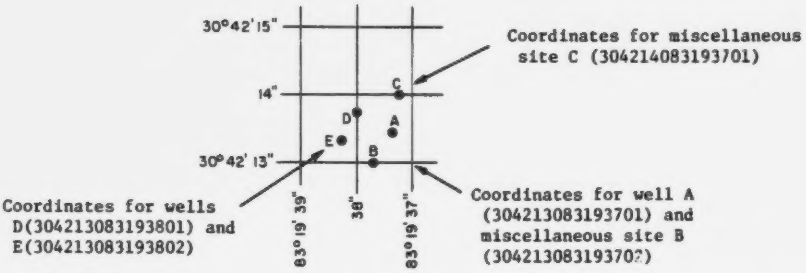
30°42'15"
14"
30°42' 13"
83° 19' 39"
38"
83° 19' 37"
A
B
C
D
E
Coordinates for miscellaneous site C (304214083193701)
Coordinates for wells D(304213083193801) and E(304213083193802)
Coordinates for well A (304213083193701) and miscellaneous site B (304213083193702)

Figure 16 .--System for numbering wells and miscellaneous sites (latitude and longitude).

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a recording device through which either instantaneous or mean daily discharges may be computed for any period of time. Complete records of lake or reservoirs, similarly, are those for which stage or content may be computed for any period of time. They may be obtained using a recording device or daily readings. Because daily mean discharges or elevations commonly are published for such stations, they are referred to as "daily stations."

Location of all complete-record stations for which data are given in this report are shown in figures preceding each sub-basin.

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records."

Data Collection and Computation

The base data collected at gaging stations consist of records of gage heights and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of gage height are obtained from either direct readings on a nonrecording gage or from a water-stage recorder that gives the fluctuations on a paper tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any gage height are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect measurements of peak discharge; such as slope-area, contracted opening measurements, computations of flow over dams or weirs, step backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharges are computed from the daily figures. If the stage–discharge relation was subjected to change because of occasional or continual change in the physical features of the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by the technician are used in applying the gage-height corrections to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by the same method.

At some stream-gaging stations the stage-discharge relation is affected by backwater from streams, tides, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in determining discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by a rapid change in stage; at these stations the rate of change in stage is used as a factor in determining discharge.

At some stations there is no relation between stage and discharge because of the flat stream gradients and/or tidal fluctuations. Discharge is determined from ratings which are based on a relation between recorded velocity index unit at a fixed point and mean velocity at a fixed measuring section, and a relation between recorded stage and cross-sectional area at the measuring site.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations. Records are published for the water year, which begins on October 1 and ends on September 30.

Data Presentation

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

Manuscript

LOCATION.--This paragraph reports the latitude and longitude (given in degrees, minutes, and seconds); a landline location designation; the hydrologic-unit number; the distance and direction from a geographic point of reference.

DRAINAGE AREA.--Drainage areas are delineated and measured using the most accurate topographic maps available, and are updated as necessary.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will be identified by date in this paragraph of the station description for water-discharge stations. (See next section, "Identifying Estimated Daily Discharge.") The paragraph will begin with this information presented as the first entry. This paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station and other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages, discharges or contents. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Data Table

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables are identified by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records depends primarily on: (1) The stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of their true values; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second (ft^3/s) for values less than 1 ft^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

Information used in the preparation of the records in this publication, such as discharge measurement notes, gage-height records, temperature measurements, and rating tables is on file in the Tallahassee office of the Florida District. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the offices whose addresses are given on the back of the title page of this report.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern is assuring that the data obtained represents the quality of the water in its natural state. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the natural water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals depends on flow conditions and other factors which must be evaluated by the collector.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratory in Arvada, Colorado. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Accuracy of the Records

In March 1989, the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that values below 75 mg/L have a median positive bias of 2 mg/L above the true value for the period between 1982 and 1989. Sulfate values for NASQAN stations in this report have not been corrected for this bias. Sulfate values for other stations in this report were determined in Ocala, Florida, and the turbidimetric method was not used.

Data Presentation

Information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each complete-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value show
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

Records of Ground-Water Levels

Ground-water level data from a statewide network of observation wells are published herein. The records include data from wells equipped with water-level recorders and data from wells where water levels are measured periodically.

Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table.

Water-level records are obtained from direct measurements with a steel tape, pressure gage, manometer, or from the graph or punched tape of a water-level recorder. The measurements in this report are given in feet above or below National Geodetic Vertical Datum of 1929 or in some tables as feet below land-surface datum. Land-surface datum is a datum plane that is approximately at land surface at each well. The elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surace datum is given in each well description.

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given to a tenth of a foot or a larger unit.

Data Presentation

Each well record consists of two parts, the manuscript or station description and the data table of water levels observed during the water year. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

Manuscript

WELL NUMBER.--This entry designates the unique well-identification number, based on latitude and longitude, and the local well number or name (or both).

LOCATION.--This paragraph reports the latitude and longitude (given in degrees, minutes, and seconds); a landline location designation; the hydrologic-unit number; and the distance and direction from a geographic point of reference.

AQUIFER.--This entry designates by name (if a name exists) and geologic age the aquifer(s) open to the well. The aquifer code also may be shown.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the measurement method used and the measuring point. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base and so on), and in relation to land surface (such as 1.3 ft above land-surface datum).

DATUM.--The elevation of the land-surface datum is described in feet above (or below) National Geodetic Vertical Datum of 1929 (NGVD of 1929); it is reported with a precision depending on the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

Data Table

A table of water levels follows the station description for each well. For wells equipped with recorders, only abbreviated tables are published; generally, daily maximums are listed for every fifth day and at the end of the month (eom). The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the abbreviated table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level.

Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that, for most sampling sites, they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes only slowly; therefore, for most general purposes, one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

Data Collection and Computation

Methods for collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed at the end of the introductory text. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casing.

Data Presentation

The records of ground-water quality are published with the ground-water-level records for each county. Data for quality of ground water are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. The Remark Codes listed for surface-water-quality records are also applicable to ground-water-quality records.

ACCESS TO WATSTORE DATA

The National WATer Data STOrage and REtrieval System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from the offices whose addresses are given on the back of the title page.

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, Virginia 22092

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C plus or minus 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5°C plus or minus 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as Gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C plus or minus 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by micro-organisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square mile (g/mi^2).

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cubic-feet-per-second day (CFS-Day) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic feet per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a 0.45 µm membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Elevation is a value given a gaging station or a ground-water well, for which the elevation of the gage datum has not been determined by leveling from a bench mark. The approximate elevation of the gage was then obtained by barometric observation or from topographic map.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate ($CaCO3$).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Measuring point (MP) is an arbitrary permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

Micrograms per gram (µg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (µG/L, µg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentaiton methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay	0.00024 - 0.004	Sedimentation
Silt	.004 - .062	Sedimentation
Sand	.062 - 2.0	Sedimentation or sieve
Gravel	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Recurrence interval is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called return period.

Runoff in inches (IN., in.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

7-day 10-year low flow ($7 Q_{10}$) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water, per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is the part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 μm membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata*, is the following:

Kingdom	Animal
Phylum	Arthropoda
Class	Insecta
Order	phemeroptera
Family	Ephemeridae
Genus	*Hexagenia*
Species	*Hexagenia limbata*

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water- suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1987, is called the "1987 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WSP is used as an abbreviaton for "Water-Supply Paper" in reference to previously published reports.

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

1-D1. Water temperature--influential factors, field measurement, and data presentation, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.

1-D2. Guidelines for collection and field analysis of ground-water samples for selected unstable constituents, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.

2-D1. Application of surface geophysics to ground-water investigations, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.

2-D2. Application of seismic-refraction techniques to hydrologic studies, by F. P. Haeni: USGS--TWRI Book 2, Chapter D2.1988. 86 pages.

2-E1. Application of borehole geophysics to water-resources investigations, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.

2-F1. Application of drilling, coring, and sampling techniques to test holes and wells, by Eugene Shuter and Warren E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 pages.

3-A1. General field and office procedures for indirect discharge measurements, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.

3-A2. Measurement of peak discharge by the slope-area method, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.

3-A3. Measurement of peak discharge at culverts by indirect methods, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.

3-A4. Measurement of peak discharge at width contractions by indirect methods, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.

3-A5. Measurement of peak discharge at dams by indirect methods, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.

3-A6. General procedure for gaging streams, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.

3-A7. Stage measurements at gaging stations, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.

3-A8. Discharge measurements at gaging stations, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.

3-A9. Measurement of time of travel and dispersion in streams by dye tracing, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 pages.

3-A10. Discharge ratings at gaging stations, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.

3-A11. Measurement of discharge by moving-boat method, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.

3-A12. Fluorometric procedures for dye tracing, by J. F. Wilson, Jr., E. D.Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 pages.

3-A13. Computation of continuous records of streamflow, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.

3-A14. Use of flumes in measuring discharge, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.

3-A15. Computation of water-surface profiles in open channels, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.

3-A16. Measurement of discharge using tracers, by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.

3-A17. Acoustic velocity meter systems, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.

3-A18. Determination of stream reaeration coefficients by use of tracers, by F. A. Kilpatrick, R. E. Rathbun, N. Yotsukura, G. W. Parker, and L. L. DeLong: USGS--TWRI Book 3, Chapter A18. 1989. 52 pages.

3-B1. Aquifer-test design, observation, and data analysis, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.

3-B2. Introduction to ground-water hydraulics, a programed text for self-instruction, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.

3-B3. Type curves for selected problems of flow to wells in confined aquifers, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

3-B5. Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems--An introduction, by O. L. Franke, T. E. Reilly, and G. D. Bennett: USGS--TWRI Book 3, Chapter B5. 1987. 15 pages.

3-B6. The principle of superposition and its application in ground-water hydraulics, by T. E. Reilly, O. L. Franke, and G. D. Bennett: USGS-TWRI Book 3, Chapter B6. 1987. 28 pages.

3-C1. Fluvial sediment concepts, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. Field methods for measurement of fluvial sediment, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

3-C3. Computation of fluvial-sediment discharge, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.

4-A1. Some statistical tools in hydrology, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

4-A2. Frequency curves, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.

4-B1. Low-flow investigations, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.

4-B2. Storage analyses for water supply, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.

4-B3. Regional analyses of streamflow characteristics, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.

4-D1. Computation of rate and volume of stream depletion by wells, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. Methods for determination of inorganic substances in water and fluvial sediments, by M. W. Skougstad, and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.

5-A2. Determination of minor elements in water by emission spectroscopy, by P. R. Barnett and E. C. Malloy, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.

5-A3. Methods for analysis of organic substances in water, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.

5-A4. Methods for collection and analysis of aquatic biological and microbiological samples, edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.

5-A5. Methods for determination of radioactive substances in water and fluvial sediments, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.

5-A6. Quality assurance practices for the chemical and biological analyses of water and fluvial sediments, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.

5-C1. Laboratory theory and methods for sediment analysis, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.

6-A1. A modular three-dimensional finite-difference ground-water flow model, by M. G. McDonald and A. W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 pages.

7-C1. Finite difference model for aquifer simulation in two dimensions with results of numerical experiments, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.

7-C2. Computer model of two-dimensional solute transport and dispersion in ground water, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.

7-C3. A model for simulation of flow in singular and interconnected channels, by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.

8-A1. Methods of measuring water levels in deep wells, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.

8-A2. Installation and service manual for U.S. Geological Survey manometers, by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.

8-B2. Calibration and maintenance of vertical-axis type current meters, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

STAGE, DISCHARGE, AND WATER QUALITY OF STREAMS

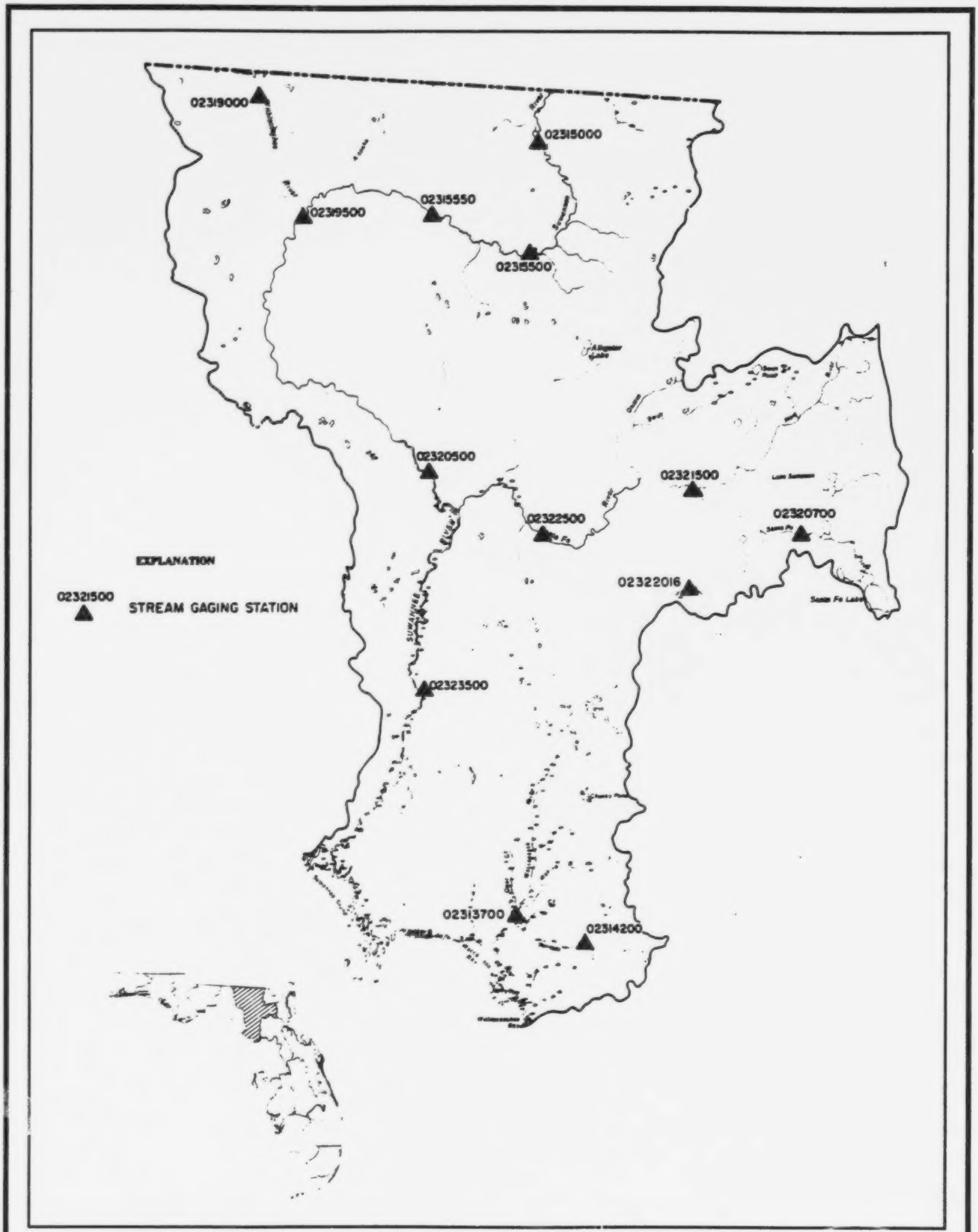
02319000
02315000
02315550
02319500
02315500
02320500
02321500
02322500
02320700
02322016
SUWANNEE RIVER
02323500
02313700
02314200
EXPLANATION
02321500
STREAM GAGING STATION

Figure 17.--Location of stream gaging stations in the Waccasassa and Suwannee River basins.

02313700 WACCASASSA RIVER NEAR GULF HAMMOCK, FL

LOCATION.--Lat 29°12'14", long 82°46'09", in SW1/4 sec.2, T.15 S., R.15 E., Levy County, Hydrologic Unit 03110101, near right bank at abandoned railroad grade, 0.5 mi upstream from Otter Creek, 3.6 mi upstream from mouth, and 4 mi southwest of Gulf Hammock.

DRAINAGE AREA.--480 mi^2, approximately, including that of Otter Creek.

PERIOD OF RECORD.--March 1963 to September 1978; November 1980 to September 1984 (fragmentary); October 1984 to current year (incomplete).

REVISED RECORDS.--WSP 2105: 1969. WRD FL-72-1: Drainage area.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is 10.51 ft below National Geodetic Vertical Datum of 1929. Prior to Nov. 24, 1980, water-stage and deflection-meter recorders at same site at datum 10.00 ft higher.

REMARKS.--Records poor. Flow affected by tide. Discharge computed from continuous velocity record obtained from water-current meter. Records include flow of Otter Creek. Above bankfull stage, discharge measurements are made along abandoned railroad fill and include all flow from about 1.5 mi northwest to 0.8 mi northeast of gaging station.

AVERAGE DISCHARGE.--18 years (water years 1964-78, 1986-88), 305 ft^3/s 221,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft^3/s Sept. 12, 1964, gage height, 16.96 ft, present datum; maximum daily reverse flow 2,310 ft^3/s Aug. 31, 1985, minimum gage height, 7.23 ft Nov. 23, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge 773 ft^3/s July 23; maximum gage height 14.00 ft May 1; maximum daily reverse flow 400 ft^3/s May 1; minimum gage height, 7.47 ft Jan. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	335	73	300	.90	23	110	125	-400	-73	---	111	191
2	286	119	280	-23	19	53	66	334	-24	---	198	169
3	322	84	203	-98	51	151	102	68	-18	---	214	319
4	394	---	176	188	154	191	71	-44	-22	---	-27	239
5	381	---	213	8.1	187	225	48	-180	-85	---	63	216
6	370	---	166	79	79	203	57	-81	-23	---	-92	302
7	346	---	139	86	123	93	-159	4.8	101	---	-116	302
8	316	---	104	7.6	201	209	19	-9.0	-75	---	-135	101
9	230	---	111	68	251	140	-.38	-50	100	---	-50	42
10	222	---	104	76	116	76	54	-149	111	---	-90	-66
11	134	---	111	44	52	92	146	197	79	---	-46	20
12	160	---	241	19	68	83	54	85	8.9	---	-51	51
13	204	---	196	51	61	111	25	23	-2.8	---	-86	97
14	190	---	161	22	74	8.4	4.1	5.2	56	---	-6.1	-2.2
15	163	---	150	-6.9	76	125	94	76	-12	---	-79	-208
16	170	---	205	44	114	60	202	80	-27	---	18	-204
17	165	---	208	86	182	76	145	70	-2.2	---	-84	37
18	151	51	175	109	56	174	74	73	-.35	---	-106	189
19	129	-45	125	114	116	92	4.3	15	-56	---	-73	168
20	115	97	136	181	71	55	48	13	-126	---	114	114
21	32	201	177	333	30	22	61	-5.6	-120	363	-114	21
22	67	288	76	189	117	62	55	8.2	-117	622	2.9	166
23	13	222	175	208	216	-35	20	14	-129	773	-96	174
24	-87	237	190	141	111	110	26	18	-179	641	-76	308
25	59	310	123	87	117	91	36	82	-157	591	-134	136
26	34	154	174	33	70	116	71	62	-163	367	-156	421
27	-23	217	154	103	37	90	61	47	-237	276	-112	492
28	30	351	118	103	140	84	80	61	---	334	197	435
29	61	266	90	21	---	48	26	-3.6	---	207	205	285
30	104	247	10	-30	---	-76	.16	63	---	149	169	165
31	103	---	57	65	---	149	---	80	---	113	197	---
TOTAL	5176	---	4848	2308.70	2912	2988.4	1616.18	557.0	---	---	-240.2	4679.8
MEAN	167	---	156	74.5	104	96.4	53.9	18.0	---	---	-7.75	156
MAX	394	---	300	333	251	225	202	334	---	---	214	492
MIN	-87	---	10	-98	19	-76	-159	-400	---	---	-156	-208
CFSM	.35	---	.33	.16	.22	.20	.11	.04	---	---	-.02	.33
IN.	.40	---	.38	.18	.23	.23	.13	.04	---	---	-.02	.36
AC-FT	10270	---	9620	4580	5780	5930	3210	1100	---	---	-476	9280

02314200 TENMILE CREEK AT LEBANON STATION, FL

LOCATION.--Lat 29°09'39", long 82°38'21", in SE¼ sec.24, T.15 S., R.16 E., Levy County, Hydrologic Unit 03110101, near center of span on downstream side of bridge on U.S. Highways 19 and 98, just downstream from North Prong Tenmile Creek, 0.2 mi south of Lebanon Station, 9.4 mi upstream from mouth, and 13 mi northwest of Dunnellon.

DRAINAGE AREA.--26 mi^2, approximately; 34 mi^2, approximately, includes that of Horse Hole Creek.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 15.00 ft above National Geodetic Vertical Datum of 1929. Since Feb. 26, 1964, nonrecording gage at Horse Hole Creek. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records poor. Records do not include considerable amount of water diverted naturally above station into Horse Hole Creek basin. Discharge measurements of Horse Hole Creek, drainage area 8.1 mi^2, approximately, are made at bridge on U.S. Highways 19 and 98, 1.9 mi south of Tenmile Creek station.

AVERAGE DISCHARGE.--26 years, 38.2 ft^3/s, 27,680 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,290 ft^3/s Sept. 11, 1964, gage height, 12.38 ft; no flow for many days in 1964, 1967, 1977, 1981, 1985, 1986, 1989.

EXTREMES FOR PERIOD OF RECORD (Horse Hole Creek-02314205).--Maximum discharge measured, 1,270 ft^3/s Sept. 11, 1964, elevation, 26.56 ft above NGVD; creek dry at times each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Mar. 3	1200	*140	*7.92				

Minimum discharge, no flow, for part or all of each day May 22-27.

Discharge measurements in cubic feet per second, of Horse Hole Creek near Lebanon Station for the water year 1989 are given in table below.

DATE	TIME	STREAM FLOW INSTANTANEOUS (CFS)	DATE	TIME	STREAM FLOW INSTANTANEOUS (CFS)
Nov. 17...	1655	.00	May 3...	1555	.00
Jan. 12...	1110	.00	June 1...	1410	.00
Mar. 8...	1640	7.10	Aug... 22...	1630	.00

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	4.7	22	6.8	4.1	13	.80	.14	.06	13	1.3	.43
2	48	4.5	19	6.5	3.8	98	.63	.15	.05	5.5	.64	.38
3	50	4.0	17	6.3	3.5	132	.52	.12	.04	3.2	.48	.46
4	66	3.8	16	5.9	3.1	110	.44	.11	.03	1.2	.40	1.3
5	61	4.5	14	5.3	2.9	89	2.5	.09	.03	.85	.34	1.3
6	56	5.8	13	5.0	2.6	73	6.0	.08	.15	.63	.30	3.7
7	50	5.3	12	4.7	2.4	58	2.8	.07	.10	.63	.27	3.8
8	44	4.6	11	4.5	2.3	45	1.4	.07	.18	.53	.26	6.0
9	38	4.0	10	4.2	2.1	36	.87	.07	.21	.75	.27	7.4
10	32	3.6	9.2	4.0	1.8	29	.65	.13	.19	3.1	.30	3.9
11	28	3.2	10	3.9	1.7	24	.59	.15	.14	.89	.62	1.8
12	25	3.0	18	3.8	1.6	20	.66	.11	.10	.62	.84	.91
13	22	2.8	19	3.6	1.5	17	.59	.09	.12	.47	.86	.61
14	19	2.6	18	3.3	1.5	15	.50	.08	.08	.42	.79	.44
15	17	2.4	17	3.1	1.5	13	.64	.07	.07	.38	.62	.32
16	15	2.2	17	3.0	1.4	12	1.5	.06	.06	.38	.47	.47
17	14	2.1	20	2.7	1.3	9.6	1.1	.06	.07	.47	.37	3.3
18	12	2.0	18	2.5	1.3	8.0	.67	.05	.07	.62	.33	2.0
19	11	1.8	16	2.3	1.2	6.6	.47	.04	.07	.77	.32	1.3
20	10	1.7	15	2.2	1.2	5.2	.35	.04	.08	.88	.36	.80
21	9.6	1.7	14	4.9	1.2	4.2	.27	.04	.08	.84	.48	.57
22	8.8	2.7	13	12	1.7	3.4	.22	.02	.08	.78	.47	2.1
23	8.0	35	12	12	2.2	4.3	.18	.01	.13	1.1	.44	17
24	7.3	35	12	9.9	1.9	6.2	.15	.00	.19	1.2	.37	18
25	6.9	29	11	8.7	1.7	4.7	.12	.00	.17	3.6	.33	58
26	6.2	25	9.6	7.7	1.5	3.6	.11	.00	.21	1.3	.33	41
27	5.6	23	8.6	6.9	1.5	2.8	.10	.01	.28	.68	.41	23
28	4.9	25	7.9	6.2	1.4	2.6	.09	.05	.30	.48	.54	22
29	4.6	25	7.5	5.7	---	2.0	.09	.07	.38	.36	.74	37
30	4.3	24	7.3	5.1	---	1.3	.09	.09	.56	.29	.74	36
31	4.4	---	7.0	4.7	---	1.1	---	.06	---	.74	.52	---
TOTAL	742.6	294.0	421.1	167.4	55.9	849.6	25.10	2.13	4.28	46.66	15.51	295.29
MEAN	24.0	9.80	13.6	5.40	2.00	27.4	.84	.069	.14	1.51	.50	9.84
MAX	66	35	22	12	4.1	132	6.0	.15	.56	13	1.3	58
MIN	4.3	1.7	7.0	2.2	1.2	1.1	.09	.00	.03	.29	.26	.32
CFSM	.92	.38	.52	.21	.08	1.05	.03	.003	.005	.06	.02	.38
IN.	1.06	.42	.60	.24	.08	1.22	.04	.00	.01	.07	.02	.42
AC-FT	1470	583	835	332	111	1690	50	4.2	8.5	93	31	586

CAL YR 1988 TOTAL 22504.61 MEAN 61.5 MAX 2680 MIN .15 CFSM 2.37 IN 32.20 AC-FT 44640
WTR YR 1989 TOTAL 2919.57 MEAN 8.00 MAX 132 MIN .00 CFSM .31 IN 4.18 AC-FT 5790

02315000 SUWANNEE RIVER NEAR BENTON, FL

LOCATION.--Lat 30°30'26", long 82°42'59", in NE¼ sec.9, T.1 N., R.16 E., Columbia County, Hydrologic Unit 03110201, near left bank on downstream side of bridge on State Highway 6, 3.7 mi northwest of Benton, 6.4 mi south of Florida-Georgia State Line, 13.7 mi east of Jasper, and 196 mi, upstream from mouth.

DRAINAGE AREA.--2,090 mi^2, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD.--October 1975 to current year. Miscellaneous discharge measurements for some periods July 1934 to September 1975. Records for December 1931 to June 1934, at site 2.0 mi upstream (at Turner Bridge) not equivalent owing to difference in drainage areas.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Oct. 1, 1975 to Oct. 14, 1986, nonrecording gage at same site and datum. Dec. 8, 1931 to June 30, 1934, nonrecording gage at site 2.0 mi upstream at datum unknown.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--14 years, 1,427 ft^3/s, 9.27 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,300 ft^3/s Apr. 6, 1984, gage height, 99.90 ft; minimum daily, 5.0 ft^3/s Aug. 9, 1977; minimum gage height, 74.10 ft, Oct. 27, 28, 29, 1986.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge measured, 27,700 ft^3/s Apr. 6, 1973, gage height, 102.80 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 787 ft^3/s Oct. 4, gage height, 77.94 ft; minimum, 12 ft^3/s June 5, gage height, 74.61 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	665	136	496	229	137	141	254	169	21	384	406	550
2	609	131	463	261	135	148	237	174	19	346	395	623
3	630	127	436	330	134	169	213	176	16	341	370	700
4	748	135	413	333	132	205	200	167	14	340	339	682
5	769	147	395	312	129	208	191	161	14	339	308	658
6	705	163	378	285	128	200	182	156	14	339	274	615
7	641	176	358	264	128	191	173	153	14	358	242	577
8	590	175	341	251	130	181	169	150	15	398	215	552
9	549	168	327	237	132	169	170	146	20	368	229	535
10	521	161	315	228	133	159	172	179	28	347	238	520
11	496	156	318	220	129	154	190	158	28	338	198	509
12	468	151	355	211	126	149	213	139	30	322	177	497
13	446	145	420	206	124	145	219	125	32	305	177	486
14	422	141	429	202	121	141	215	113	36	288	196	491
15	388	138	413	196	120	137	216	103	49	287	228	474
16	358	134	395	192	119	134	222	92	91	306	239	449
17	332	131	378	188	120	131	246	77	145	307	245	432
18	311	127	361	181	118	128	241	61	197	318	260	396
19	288	124	343	175	116	125	225	50	243	294	301	362
20	265	121	327	170	114	122	214	41	271	291	382	328
21	248	120	314	166	115	121	234	37	301	304	449	298
22	235	122	304	164	126	123	305	33	310	334	494	274
23	219	123	295	160	135	147	296	30	293	424	488	320
24	206	124	286	161	139	211	270	29	276	430	480	356
25	194	131	278	159	136	284	241	27	356	410	481	343
26	181	149	271	154	138	250	214	24	437	407	489	337
27	170	180	260	151	140	224	196	22	431	404	496	320
28	159	224	250	148	139	205	184	21	394	401	503	302
29	152	463	245	144	---	189	173	21	379	401	491	298
30	146	526	237	142	---	188	166	21	384	413	502	310
31	140	---	231	140	---	215	---	21	---	412	508	---
TOTAL	12251	5049	10632	6360	3593	5294	6441	2876	4858	10956	10800	13594
MEAN	395	168	343	205	128	171	215	92.8	162	353	348	453
MAX	769	526	496	333	140	284	305	179	437	430	508	700
MIN	140	120	231	140	114	121	166	21	14	287	177	274
AC-FT	24300	10010	21090	12620	7130	10500	12780	5700	9640	21730	21420	26960
CFSM	.19	.08	.16	.10	.06	.08	.10	.04	.08	.17	.17	.22
IN.	.22	.09	.19	.11	.06	.09	.11	.05	.09	.20	.19	.24

CAL YR 1988 TOTAL 326372 MEAN 892 MAX 7700 MIN 21 AC-FT 647400 CFSM .43 IN. 5.81
WTR YR 1989 TOTAL 92704 MEAN 254 MAX 769 MIN 14 AC-FT 183900 CFSM .12 IN. 1.65

02315000 SUWANNEE RIVER NEAR BENTON, FL--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77.44	75.23	76.83	75.66	75.26	75.28	75.76	75.41	74.75	76.64	76.65	77.18
2	77.22	75.20	76.66	75.78	75.25	75.32	75.69	75.43	74.72	76.48	76.58	77.48
3	77.31	75.19	76.53	76.04	75.24	75.41	75.59	75.44	74.67	76.46	76.48	77.78
4	77.78	75.23	76.42	76.05	75.23	75.56	75.54	75.41	74.65	76.46	76.35	77.71
5	77.87	75.30	76.33	75.97	75.22	75.57	75.51	75.38	74.63	76.45	76.22	77.61
6	77.62	75.38	76.25	75.86	75.21	75.54	75.47	75.35	74.65	76.45	76.09	77.44
7	77.37	75.44	76.17	75.79	75.22	75.50	75.43	75.34	74.65	76.52	75.96	77.29
8	77.16	75.44	76.11	75.73	75.22	75.46	75.42	75.32	74.66	76.68	75.84	77.17
9	76.99	75.41	76.05	75.69	75.24	75.42	75.42	75.30	74.73	76.55	75.89	77.09
10	76.85	75.38	76.00	75.65	75.24	75.37	75.43	75.45	74.84	76.46	75.93	77.01
11	76.72	75.35	76.01	75.62	75.22	75.35	75.50	75.40	74.84	76.42	75.76	76.95
12	76.59	75.33	76.16	75.58	75.20	75.32	75.59	75.34	74.86	76.36	75.68	76.89
13	76.48	75.30	76.45	75.57	75.19	75.30	75.62	75.30	74.89	76.29	75.68	76.84
14	76.37	75.28	76.49	75.55	75.17	75.28	75.60	75.27	74.93	76.21	75.75	76.87
15	76.20	75.27	76.41	75.52	75.17	75.26	75.60	75.23	75.05	76.21	75.87	76.78
16	76.08	75.24	76.32	75.51	75.16	75.24	75.63	75.20	75.37	76.28	75.91	76.66
17	75.99	75.23	76.25	75.49	75.16	75.23	75.73	75.13	75.70	76.28	75.92	76.57
18	75.90	75.21	76.18	75.47	75.16	75.21	75.70	75.06	75.93	76.32	75.97	76.39
19	75.81	75.19	76.11	75.44	75.14	75.20	75.64	74.99	76.11	76.23	76.13	76.25
20	75.73	75.18	76.05	75.42	75.13	75.18	75.59	74.94	76.23	76.21	76.45	76.11
21	75.66	75.17	76.00	75.40	75.14	75.17	75.68	74.93	76.35	76.26	76.77	75.99
22	75.62	75.18	75.96	75.40	75.20	75.18	75.96	74.90	76.37	76.38	76.98	75.90
23	75.56	75.19	75.92	75.37	75.25	75.31	75.92	74.86	76.30	76.76	76.94	76.08
24	75.50	75.19	75.88	75.38	75.27	75.58	75.82	74.86	76.23	76.79	76.89	76.23
25	75.46	75.23	75.85	75.37	75.26	75.88	75.70	74.83	76.55	76.69	76.89	76.17
26	75.41	75.32	75.83	75.35	75.26	75.74	75.60	74.79	76.92	76.67	76.92	76.15
27	75.37	75.46	75.78	75.33	75.27	75.63	75.52	74.77	76.88	76.65	76.95	76.08
28	75.33	75.64	75.74	75.32	75.27	75.56	75.48	74.75	76.70	76.63	76.98	76.01
29	75.29	76.67	75.72	75.30	---	75.50	75.43	74.75	76.63	76.63	76.91	75.99
30	75.27	76.98	75.69	75.29	---	75.49	75.40	74.75	76.65	76.68	76.96	76.04
31	75.25	---	75.66	75.27	---	75.60	---	74.75	---	76.68	76.98	---
TOTAL	2365.20	2261.81	2359.81	2342.17	2105.95	2337.64	2267.97	2328.63	2266.44	2370.78	2367.28	2300.71
MEAN	76.30	75.39	76.12	75.55	75.21	75.41	75.60	75.12	75.55	76.48	76.36	76.69
MAX	77.87	76.98	76.83	76.05	75.27	75.88	75.96	75.45	76.92	76.79	76.98	77.78
MIN	75.25	75.17	75.66	75.27	75.13	75.17	75.40	74.75	74.63	76.21	75.68	75.90

WTR YR 1989 TOTAL 27674.39 MEAN 75.82 MAX 77.87 MIN 74.63

02315500 SUWANNEE RIVER AT WHITE SPRINGS, FL

LOCATION.--Lat 30°19'32", long 82°44'18", in SW1/4 sec.8, T.2 S., R.16 E., Columbia County, Hydrologic Unit 03110201, on downstream side of bridge on U.S. Highway 41, 1.0 mi southeast of White Springs and 171 mi upstream from mouth.

DRAINAGE AREA.--2,430 mi^2 approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD.--May 1906 to December 1908, February 1927 to current year.

REVISED RECORDS.--WSP 1504: 1906, 1908. WSP 1905: WDR FL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to July 31, 1932, nonrecording gage at site 1.0 mi downstream at datum 48.54 ft. August 1, 1932 to October 10, 1979, water-stage recorder at datum 48.54 ft. October 11, 1979 to December 1, 1983, non-recording gage at site 2.2 miles downstream at NGVD. December 2, 1983 to April 30, 1988, non-recording gage at same site and datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--64 years (water years 1907-08, 1928-89), 1,836 ft^3/s, 10.26 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,100 ft^3/s Apr. 10, 1973, gage height, 88.56 ft present datum; minimum, 4.8 ft^3/s Nov. 15, 1931; minimum gage height, 49.59 ft present datum June 24-26, 1955, Nov. 3-8, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, estimated 900 ft^3/s Oct. 5, gage height, estimated 54.20 ft; minimum, 62 ft^3/s June 5, gage height 50.23 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e750	210	553	275	191	189	254	185	73	397	408	636
2	e650	197	508	287	189	195	260	197	71	368	399	712
3	662	e180	471	338	188	220	242	194	68	341	389	769
4	832	e200	445	370	186	232	228	190	66	337	375	821
5	e900	226	423	350	181	242	222	182	63	340	346	843
6	846	248	409	319	172	241	217	175	64	337	321	846
7	734	246	393	303	172	232	212	165	66	339	300	821
8	692	243	376	291	176	216	208	158	73	373	284	770
9	e650	239	361	277	171	207	205	163	76	379	272	714
10	592	234	349	266	167	199	204	208	87	345	277	677
11	552	226	354	259	165	193	211	264	96	330	259	646
12	530	e220	373	251	171	191	219	226	92	320	234	618
13	488	e215	425	246	163	188	224	196	90	317	223	597
14	459	210	450	244	161	188	224	176	88	299	246	606
15	e450	203	444	238	160	187	224	163	88	283	302	616
16	e400	199	431	233	160	179	229	153	104	291	296	596
17	373	195	414	227	159	166	245	143	170	303	287	582
18	351	192	394	224	159	166	258	132	220	307	288	550
19	324	189	371	222	157	164	247	118	254	304	305	509
20	309	e185	356	219	154	161	247	109	279	301	374	486
21	298	e180	345	217	159	160	263	100	307	313	453	441
22	296	e200	337	217	190	163	297	98	321	361	540	415
23	e280	208	330	213	188	204	307	97	314	429	575	417
24	265	205	324	210	183	269	288	93	305	468	577	464
25	252	204	316	208	181	297	260	90	310	460	732	477
26	239	219	315	205	179	304	235	85	391	431	761	471
27	234	268	306	203	180	272	220	82	438	413	708	466
28	224	322	298	201	183	250	210	78	408	407	692	451
29	216	421	293	198	---	234	198	75	382	406	657	438
30	e215	553	287	196	---	225	187	73	394	416	631	442
31	211	---	282	194	---	236	---	73	---	417	613	---
TOTAL	14274	7037	11733	7701	4845	6570	7045	4441	5758	11132	13124	17897
MEAN	460	235	378	248	173	212	235	143	192	359	423	597
MAX	900	553	553	370	191	304	307	264	438	468	761	846
MIN	211	180	282	194	154	160	187	73	63	283	223	415
AC-FT	28310	13960	23270	15270	9610	13030	13970	8810	11420	22080	26030	35500
CFSM	.19	.10	.16	.10	.07	.09	.10	.06	.08	.15	.17	.25
IN.	.22	.11	.18	.12	.07	.10	.11	.07	.09	.17	.20	.27

CAL YR 1988 TOTAL 377752 MEAN 1032 MAX 7390 MIN 55 AC-FT 749300 CFSM .42 IN. 5.78
WTR YR 1989 TOTAL 111557 MEAN 306 MAX 900 MIN 63 AC-FT 221300 CFSM .13 IN. 1.71

e Estimated

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	51.33	52.91	51.70	51.21	51.20	51.59	51.18	50.34	52.45	52.44	53.20
2	---	51.25	52.73	51.74	51.20	51.23	51.62	51.25	50.32	52.33	52.39	53.50
3	53.35	---	52.58	51.97	51.19	51.39	51.53	51.23	50.29	52.22	52.35	53.71
4	53.97	---	52.47	52.11	51.18	51.47	51.44	51.21	50.27	52.20	52.28	53.89
5	---	51.43	52.38	52.02	51.15	51.53	51.41	51.16	50.24	52.21	52.15	53.97
6	54.02	51.56	52.32	51.89	51.09	51.52	51.37	51.11	50.25	52.20	52.03	53.98
7	53.62	51.55	52.26	51.82	51.09	51.47	51.34	51.05	50.27	52.21	51.91	53.89
8	53.47	51.53	52.18	51.77	51.12	51.37	51.32	51.01	50.34	52.35	51.82	53.71
9	---	51.51	52.12	51.71	51.09	51.31	51.30	51.04	50.37	52.37	51.75	53.51
10	53.07	51.48	52.07	51.65	51.06	51.26	51.29	51.32	50.48	52.23	51.77	53.37
11	52.91	51.43	52.09	51.61	51.05	51.23	51.34	51.64	50.55	52.17	51.68	53.24
12	52.82	---	52.17	51.58	51.08	51.21	51.39	51.43	50.53	52.12	51.54	53.13
13	52.65	---	52.39	51.55	51.04	51.20	51.42	51.24	50.50	52.10	51.47	53.05
14	52.53	51.33	52.49	51.54	51.02	51.19	51.42	51.12	50.49	52.01	51.60	53.08
15	---	51.29	52.47	51.51	51.02	51.19	51.42	51.04	50.52	51.92	51.90	53.12
16	---	51.26	52.41	51.48	51.02	51.13	51.45	50.97	50.67	51.97	51.87	53.04
17	52.17	51.24	52.34	51.44	51.01	51.06	51.54	50.90	51.16	52.02	51.82	52.99
18	52.08	51.22	52.26	51.42	51.01	51.05	51.61	50.82	51.51	52.05	51.83	52.86
19	51.96	51.20	52.16	51.40	51.00	51.04	51.55	50.72	51.73	52.03	51.91	52.70
20	51.88	---	52.10	51.39	50.98	51.02	51.55	50.65	51.89	52.02	52.21	52.60
21	51.82	---	52.05	51.38	51.01	51.02	51.64	50.58	52.05	52.08	52.53	52.42
22	51.81	---	52.02	51.37	51.20	51.04	51.82	50.57	52.12	52.30	52.87	52.31
23	---	51.32	51.99	51.35	51.19	51.29	51.87	50.56	52.09	52.58	52.99	52.32
24	51.65	51.30	51.96	51.33	51.16	51.67	51.77	50.53	52.04	52.75	52.99	52.51
25	51.58	51.30	51.92	51.32	51.15	51.82	51.62	50.50	52.06	52.71	53.58	52.56
26	51.51	51.39	51.91	51.30	51.13	51.85	51.48	50.46	52.43	52.58	53.68	52.54
27	51.48	51.66	51.86	51.29	51.14	51.68	51.39	50.43	52.62	52.50	53.49	52.52
28	51.42	51.94	51.82	51.27	51.16	51.57	51.33	50.39	52.50	52.46	53.43	52.46
29	51.37	52.37	51.80	51.26	---	51.48	51.26	50.36	52.39	52.45	53.29	52.40
30	---	52.91	51.76	51.25	---	51.43	51.19	50.34	52.44	52.49	53.18	52.42
31	51.34	---	51.74	51.23	---	51.49	---	50.34	---	52.48	53.11	---
TOTAL	---	---	1617.73	1597.65	1430.75	1591.41	1544.27	1577.15	1535.46	1620.56	1623.86	1591.00
MEAN	---	---	52.18	51.54	51.10	51.34	51.48	50.88	51.18	52.28	52.38	53.03
MAX	---	---	52.91	52.11	51.21	51.85	51.87	51.64	52.62	52.75	53.68	53.98
MIN	---	---	51.74	51.23	50.98	51.02	51.19	50.34	50.24	51.92	51.47	52.31

02315550 SUWANNEE RIVER AT SUWANNEE SPRINGS, FL

LOCATION.--Lat 30°23'34", long 82°56'00", in NE¼ sec.20, T.1 S., R.14 E., Suwannee County, Hydrologic Unit 03110201, on left bank 0.2 mi upstream from springs at town of Suwannee Springs, 7.5 mi north of Live Oak, and 150 mi upstream from mouth.

DRAINAGE AREA.--2,630 mi^2, approximately, includes part of watershed in Okefenokee Swamp, which is indeterminate.

PERIOD OF RECORD.--October 1974 to current year. Prior to November 1960, six miscellaneous discharge measurements made in 1906, 1951 and 1956. November 1960 to September 1974 (gage heights and discharge measurements only).

REVISED RECORDS.--WSP 2105: WDR FL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark). Dec. 13, 1960 to Apr. 26, 1972 and Aug. 21, 1974 to May 8, 1980, auxiliary nonrecording gage 0.3 mi downstream from base gage at same datum. Since Oct. 1, 1982 water stage recorder at Suwannee River at Ellaville (02319500), about 23 mi. downstream from base gage, used to determine discharge during backwater conditions.

REMARKS.--Records good. Flow affected by backwater from Withlacoochee and Alapaha Rivers at times. Unknown amounts of withdrawal were made during months of May and June.

AVERAGE DISCHARGE.--15 years (water years 1975-89), 1,804 ft^3/s, 9.31 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,100 ft^3/s Apr. 12, 1973, gage height, 78.91 ft, from flood marks; minimum, 69 ft^3/s Dec. 10, 11, 1983; minimum gage height, 37.00 ft estimated, Nov. 2, 3, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,180 ft^3/s, Oct. 4, gage height, 42.22 ft; minimum, 132 ft^3/s, June 6, gage height, 37.49 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	996	292	e670	323	234	227	259	211	144	352	329	552
2	918	284	e670	318	231	233	269	214	142	343	350	608
3	974	275	e620	333	230	248	273	218	139	391	337	689
4	1170	273	e575	385	227	254	262	215	137	364	321	764
5	1150	284	e530	396	226	262	253	211	137	381	298	780
6	1090	303	e515	369	224	275	246	207	137	387	275	778
7	1020	314	e495	341	225	270	239	203	137	368	270	781
8	940	309	e475	320	228	259	234	198	137	368	269	740
9	857	300	e450	303	223	250	231	195	142	390	268	686
10	812	292	e435	292	218	243	230	197	150	375	254	650
11	766	284	e420	283	216	237	230	232	147	352	255	622
12	716	277	e425	277	215	234	232	253	147	335	240	601
13	673	271	e455	274	214	231	239	229	147	315	223	592
14	609	268	e515	271	213	229	245	213	143	317	220	591
15	567	e260	e560	267	213	224	251	204	142	287	240	623
16	531	e255	e555	264	214	217	255	198	146	271	270	609
17	498	e250	e540	257	211	214	253	188	168	287	264	572
18	472	e245	e500	253	208	211	258	180	197	292	259	552
19	451	e240	e480	249	204	209	261	172	229	291	261	515
20	433	e235	e450	246	204	207	252	166	249	287	281	482
21	420	e230	e430	243	207	204	270	161	265	303	345	449
22	410	e225	e420	242	226	207	272	157	289	296	424	415
23	396	e250	e410	242	232	236	284	155	288	341	500	410
24	377	e260	e400	240	227	275	286	156	286	463	505	426
25	354	e258	e390	239	224	288	277	155	276	448	585	475
26	331	e255	e385	239	223	318	259	154	288	406	717	499
27	314	e270	e375	237	224	298	241	150	353	370	640	485
28	305	e320	355	236	226	286	227	147	370	345	612	471
29	298	e400	348	235	---	270	217	146	356	328	617	455
30	296	e525	339	236	---	258	211	146	364	319	565	448
31	296	---	330	239	---	258	---	147	---	324	545	---
TOTAL	19440	8504	14517	8649	6167	7632	7516	5778	6252	10696	11539	17320
MEAN	627	283	468	279	220	246	251	186	208	345	372	577
MAX	1170	525	670	396	234	318	286	253	370	463	717	781
MIN	296	225	330	235	204	204	211	146	137	271	220	410
AC-FT	38560	16870	28790	17160	12230	15140	14910	11460	12400	21220	22890	34350
CFSM	.24	.11	.18	.11	.08	.09	.10	.07	.08	.13	.14	.22
IN.	.27	.12	.21	.12	.09	.11	.11	.08	.09	.15	.16	.24

CAL YR 1988 TOTAL 419888 MEAN 1147 MAX 7500 MIN 144 AC-FT 832800 CFSM .44 IN. 5.94
WTR YR 1989 TOTAL 124010 MEAN 340 MAX 1170 MIN 137 AC-FT 246000 CFSM .13 IN. 1.75

e Estimated

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41.63	38.97	---	39.07	38.56	38.50	38.75	38.36	37.66	39.43	39.62	40.11
2	41.35	38.92	---	39.05	38.53	38.55	38.82	38.39	37.63	39.41	39.66	40.33
3	41.53	38.86	---	39.12	38.52	38.67	38.85	38.42	37.58	39.65	39.54	40.64
4	42.15	38.85	---	39.35	38.50	38.72	38.77	38.40	37.56	39.54	39.41	40.91
5	42.16	38.93	---	39.40	38.49	38.77	38.71	38.36	37.56	39.62	39.26	40.96
6	41.98	39.04	---	39.30	38.47	38.87	38.66	38.33	37.55	39.64	39.12	40.94
7	41.77	39.09	---	39.18	38.48	38.83	38.60	38.29	37.56	39.55	38.99	40.94
8	41.50	39.07	---	39.10	38.51	38.75	38.56	38.24	37.55	39.55	38.93	40.78
9	41.20	39.03	---	39.02	38.47	38.68	38.53	38.21	37.63	39.65	38.94	40.58
10	41.04	38.98	---	38.98	38.42	38.63	38.52	38.23	37.73	39.57	38.83	40.43
11	40.88	38.92	---	38.92	38.41	38.59	38.53	38.54	37.70	39.44	38.85	40.31
12	40.69	38.88	---	38.88	38.40	38.56	38.54	38.70	37.70	39.35	38.73	40.22
13	40.53	38.84	---	38.86	38.39	38.53	38.60	38.52	37.70	39.24	38.61	40.17
14	40.28	38.81	---	38.83	38.38	38.51	38.64	38.38	37.65	39.24	38.58	40.15
15	40.11	---	---	38.81	38.38	38.47	38.69	38.30	37.63	39.09	38.75	40.27
16	39.97	---	---	38.78	38.39	38.42	38.72	38.24	37.68	39.01	38.95	40.20
17	39.84	---	---	38.74	38.37	38.39	38.71	38.14	37.93	39.09	38.87	40.04
18	39.73	---	---	38.71	38.33	38.36	38.74	38.06	38.23	39.11	38.80	39.95
19	39.63	---	---	38.68	38.30	38.35	38.76	37.98	38.52	39.12	38.79	39.79
20	39.56	---	---	38.65	38.30	38.33	38.70	37.91	38.68	39.12	38.91	39.65
21	39.51	---	---	38.63	38.33	38.30	38.83	37.85	38.79	39.22	39.26	39.50
22	39.47	---	---	38.62	38.49	38.33	38.84	37.81	39.07	39.21	39.60	39.34
23	39.41	---	---	38.62	38.54	38.57	38.99	37.79	38.98	39.47	39.91	39.31
24	39.34	---	---	38.60	38.50	38.86	39.00	37.80	38.94	40.11	39.93	39.37
25	39.24	---	---	38.60	38.47	39.01	38.88	37.79	38.87	40.13	40.24	39.56
26	39.14	---	---	38.60	38.47	39.16	38.75	37.78	39.03	39.99	40.73	39.55
27	39.06	---	---	38.59	38.48	39.08	38.61	37.74	39.42	39.86	40.45	39.58
28	39.02	---	39.22	38.57	38.49	38.95	38.50	37.69	39.49	39.77	40.35	39.51
29	38.99	---	39.19	38.57	---	38.83	38.42	37.68	39.43	39.70	40.37	39.43
30	38.98	---	39.14	38.57	---	38.74	38.37	37.69	39.47	39.65	40.17	39.39
31	38.98	---	39.10	38.60	---	38.74	---	37.69	---	39.65	40.09	---
TOTAL	1248.67	---	---	1204.00	1076.37	1198.05	1160.59	1181.31	1146.92	1224.18	1221.24	1202.01
MEAN	40.28	---	---	38.84	38.44	38.65	38.69	38.11	38.23	39.49	39.39	40.07
MAX	42.16	---	---	39.40	38.56	39.16	39.00	38.70	39.49	40.13	40.73	40.96
MIN	38.98	---	---	38.57	38.30	38.30	38.37	37.68	37.55	39.01	38.58	39.31

02319000 WITHLACOOCHEE RIVER NEAR PINETTA, FL

LOCATION.--Lat 30°35'43", long 83°15'35", in NW¼ sec.7, T.2 N., R.11 E., Madison County, Hydrologic Unit 03110203, on right bank 30 ft downstream from bridge, 0.1 mi downstream from small tributary, 0.3 mi west of Bellville, 5.6 mi east of Pinetta, and 22 mi upstream from mouth.

DRAINAGE AREA.--2,120 mi^2, approximately.

PERIOD OF RECORD.--October 1931 to current year. Monthly discharge only for October and November 1931, published in WSP 1304.

REVISED RECORDS.--WSP 972: 1941-42. WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 47.21 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Oct. 11, 1931 to Dec. 3, 1941, nonrecording gage at same site and datum. Dec. 3, 1941 to Aug. 2, 1972, water-stage recorder at same site and datum. Aug. 2, 1972 to Apr. 22, 1986, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--58 years, 1,678 ft^3/s, 10.76 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,400 ft^3/s Apr. 5, 1948, gage height, 38.64 ft from flood marks; minimum, 70 ft^3/s Aug. 23, 1955, gage height, 6.27 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1928 reached a stage of 36.75 ft from floodmarks, discharge, 53,600 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,900 ft^3/s July 28, maximum gage height observed, 15.00 ft; minimum, 177 ft^3/s June 5, gage height, 6.69 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	451	205	308	220	205	645	1990	344	196	2030	3010	361
2	436	201	268	225	203	762	1940	338	190	2210	2330	384
3	459	200	245	234	202	874	1570	347	187	2290	1870	425
4	688	201	234	246	203	932	1200	326	185	2290	1480	451
5	873	218	225	255	207	913	975	330	178	2130	1180	433
6	872	220	219	243	207	921	842	373	190	1910	951	406
7	814	227	217	235	209	949	737	394	188	1890	759	387
8	720	220	213	231	213	991	640	399	189	1970	620	391
9	695	216	210	228	216	1030	550	455	542	1910	575	374
10	686	214	210	225	219	1080	573	582	1830	1820	1060	362
11	656	205	223	223	221	1120	677	1510	1930	1750	1050	343
12	564	196	250	228	222	1120	631	1340	1770	1640	812	317
13	478	192	284	231	220	1080	524	1060	1630	1560	645	296
14	432	189	293	227	213	962	465	799	1560	1640	602	286
15	387	186	277	229	206	809	485	751	1640	1780	643	275
16	357	188	261	225	202	689	850	771	1780	1740	619	267
17	331	185	248	219	200	599	1080	815	1950	1760	542	245
18	315	182	238	216	201	535	1200	819	1950	1880	505	233
19	299	182	227	217	203	509	1310	717	1780	2030	468	217
20	286	186	222	213	204	507	1400	565	1680	2220	445	208
21	275	182	219	206	233	496	1420	452	1690	2540	416	201
22	260	184	217	206	294	474	1340	385	1770	2760	387	198
23	253	192	220	207	413	512	1180	352	1850	3190	356	191
24	248	194	225	212	435	884	1010	339	1930	3830	342	186
25	240	191	224	218	469	1070	814	339	2050	4210	334	187
26	232	189	220	219	503	1130	652	312	1980	4430	327	193
27	226	196	222	216	527	1190	529	286	1810	4670	294	194
28	219	292	226	212	549	1270	458	265	1740	4810	503	203
29	215	400	225	208	---	1350	404	248	1750	4820	482	232
30	213	356	221	208	---	1430	366	233	1850	4610	398	218
31	210	---	219	208	---	1750	---	208	---	3970	364	---
TOTAL	13390	6389	7310	6890	7599	28583	27812	16454	39965	82290	24369	8664
MEAN	432	213	236	222	271	922	927	531	1332	2655	786	289
MAX	873	400	308	255	549	1750	1990	1510	2050	4820	3010	451
MIN	210	182	210	206	200	474	366	208	178	1560	294	186
CFSM	.20	.10	.11	.11	.13	.44	.44	.25	.63	1.25	.37	.14
IN.	.23	.11	.13	.12	.13	.50	.49	.29	.70	1.44	.43	.15
AC-FT	26560	12670	14500	13670	15070	56690	55170	32640	79270	163200	48340	17190

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CAL YR 1988   TOTAL   490460   MEAN  1340   MAX  12700   MIN 131   CFSM .63   IN 8.61   AC-FT  972800
WTR YR 1989   TOTAL   269715   MEAN   739   MAX   4820   MIN 178   CFSM .35   IN 4.73   AC-FT  535000
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02319500 SUWANNEE RIVER AT ELLAVILLE, FL

LOCATION.--Lat 30°23'04", long 83°10'19", in NE1/4 sec.24, T.1 S., R.11 E., Suwannee County, Hydrologic Unit 03110205, on left bank at Ellaville, 100 ft upstream from Seaboard Air Line Railroad bridge, 200 ft downstream from Withlacoochee River, 900 ft upstream from bridge on U.S. Highway 90, and 127 mi upstream from mouth.

DRAINAGE AREA.--6,970 mi^2, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD.--January 1927 to current year.

REVISED RECORDS.--WSP 1905: WDR FL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 27.22 ft above National Geodetic Vertical Datum of 1929. Prior to June 20, 1932, nonrecording gage at same site and datum. Nov. 8, 1955 to Sept. 30, 1970, nonrecording gage 1.1 mi downstream from base gage at datum 2.67 ft lower, used as supplementary gage when flow was less than 4,800 ft^3/s.

REMARKS.--Records good. Since Nov. 7, 1953, slight regulation at low water caused by diversions above control 0.7 mi downstream from gage by a steam-electric powerplant for cooling of condensers. Total diverted flow is returned to river below control. Records include flow of large spring on left bank about 200 ft downstream; spring flow may reverse during high stages.

AVERAGE DISCHARGE.--62 years, 6,477 ft^3/s, 12.62 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,300 ft^3/s Apr. 7,8, 1948, gage height, 40.88 ft, from floodmarks; minimum, 882 ft^3/s July 17, 1955; minimum gage height, 1.56 ft Dec. 1, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,790 ft^3/s July 29, gage height, 7.49 ft; minimum, 1,270 ft^3/s June 8, gage height, 1.93 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3590	2330	2160	1960	1750	2210	3360	2520	1430	4000	6050	2340
2	3450	2290	2150	1960	1740	2340	3460	2390	1390	4220	5530	2400
3	3390	2270	2080	1970	1730	2450	3380	2300	1360	4430	5000	2500
4	3500	2250	2030	1990	1720	2470	3210	2250	1330	4550	4510	2540
5	3680	2270	1980	1910	1720	2490	3060	2190	1300	4550	4070	2550
6	3730	2260	1940	1970	1720	2460	2950	2160	1300	4470	3700	2540
7	3710	2250	1910	1990	1720	2480	2850	2150	1290	4440	3390	2520
8	3630	2240	1890	1960	1720	2530	2750	2140	1280	4490	3160	2510
9	3510	2220	1870	1940	e1710	2600	2660	2150	1450	4450	3010	2470
10	3440	2200	1850	1920	e1700	2670	2600	2210	2650	4290	3040	2410
11	3390	2170	1870	1900	e1700	2730	2650	2600	3120	4100	3080	2340
12	3300	2140	1900	1890	e1690	2780	2590	2830	3080	3940	2970	2280
13	3200	2120	1930	1890	1680	2810	2530	2740	2970	3800	2840	2220
14	3100	2090	1990	1880	1670	2800	2440	2590	2890	3740	2750	2180
15	3020	2070	2030	1880	1660	2760	2410	2500	2850	3760	2720	2160
16	2950	2060	2020	1870	1650	2720	2490	2470	2920	3740	2720	2150
17	2880	2040	1980	1850	1650	2690	2680	2450	3070	3700	2660	2100
18	2820	2020	1940	1840	1650	2670	2830	2430	3220	3730	2590	2050
19	2700	2000	1910	1830	1640	2650	2960	2360	3270	3830	2530	1990
20	2630	1990	1890	1820	1640	2630	3070	2250	3270	4000	2480	1930
21	2590	1880	1870	1800	1660	2620	3170	2110	3320	4260	2460	1890
22	2550	1850	1850	1800	1650	2550	3240	1980	3430	4550	2450	1850
23	2520	1850	1930	1800	1650	2530	3250	1890	3540	4860	2450	1810
24	2520	1850	2060	1790	1720	2620	3250	1830	3630	5420	2430	1780
25	2510	1850	2050	1790	1760	2800	3210	1780	3800	5950	2420	1800
26	2500	1890	2020	1780	1810	2900	3150	1730	3890	6280	2450	1810
27	2460	1960	2010	1780	1860	2950	3060	1670	3880	6510	2450	1800
28	2420	1970	2020	1770	1990	2970	2950	1610	3820	6700	2470	1780
29	2390	1980	1990	1770	---	3000	2810	1550	3780	6770	2510	1790
30	2370	2060	1980	1760	---	3050	2650	1510	3830	6690	2430	1790
31	2350	---	1970	1760	---	3170	---	1470	---	6450	2360	---
TOTAL	92800	62420	61070	57820	47960	83100	87670	66810	82360	146670	95680	64280
MEAN	2994	2081	1970	1865	1713	2681	2922	2155	2745	4731	3086	2143
MAX	3730	2330	2160	1990	1990	3170	3460	2830	3890	6770	6050	2550
MIN	2350	1850	1850	1760	1640	2210	2410	1470	1280	3700	2360	1780
AC-FT	184100	123800	121100	114700	95130	164800	173900	132500	163400	290900	189800	127500
CFSM	.43	.30	.28	.27	.25	.38	.42	.31	.39	.68	.44	.31
IN.	.50	.33	.33	.31	.26	.44	.47	.36	.44	.78	.51	.34

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CAL YR 1988   TOTAL 1704070   MEAN 4656   MAX 21300   MIN 1250   AC-FT 3380000   CFSM .67   IN. 9.09
WTR YR 1989   TOTAL  948640   MEAN 2599   MAX  6770   MIN 1280   AC-FT 1882000   CFSM .37   IN. 5.06
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e Estimated

02319500 SUWANNEE RIVER AT ELLAVILLE, FL--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.15	2.82	2.68	2.53	2.36	2.72	3.90	2.98	2.07	4.58	6.77	2.92
2	4.00	2.79	2.67	2.53	2.34	2.83	4.01	2.87	2.04	4.81	6.23	2.97
3	3.94	2.76	2.62	2.54	2.34	2.92	3.93	2.80	2.01	5.03	5.68	3.06
4	4.05	2.75	2.58	2.55	2.33	2.94	3.74	2.75	1.99	5.15	5.17	3.09
5	4.24	2.77	2.54	2.49	2.33	2.96	3.57	2.71	1.97	5.16	4.71	3.10
6	4.29	2.76	2.51	2.53	2.33	2.93	3.45	2.68	1.96	5.07	4.33	3.08
7	4.27	2.75	2.49	2.55	2.33	2.95	3.34	2.68	1.95	5.04	4.01	3.06
8	4.19	2.74	2.48	2.53	2.32	2.99	3.23	2.67	1.94	5.10	3.76	3.05
9	4.06	2.73	2.46	2.51	2.27	3.07	3.13	2.67	2.10	5.05	3.61	3.01
10	3.99	2.71	2.44	2.50	2.11	3.14	3.07	2.72	3.16	4.89	3.65	2.95
11	3.94	2.69	2.45	2.48	2.09	3.21	3.12	3.09	3.64	4.69	3.69	2.90
12	3.84	2.67	2.48	2.48	2.19	3.26	3.06	3.32	3.59	4.52	3.57	2.84
13	3.72	2.65	2.51	2.47	2.29	3.29	2.99	3.21	3.47	4.37	3.43	2.79
14	3.62	2.63	2.55	2.46	2.29	3.28	2.91	3.06	3.38	4.30	3.33	2.76
15	3.53	2.61	2.58	2.46	2.28	3.24	2.88	2.97	3.34	4.33	3.29	2.74
16	3.45	2.60	2.58	2.46	2.27	3.20	2.96	2.94	3.42	4.31	3.30	2.73
17	3.38	2.59	2.55	2.44	2.27	3.17	3.15	2.92	3.58	4.27	3.24	2.68
18	3.31	2.57	2.52	2.43	2.27	3.14	3.32	2.90	3.75	4.30	3.16	2.65
19	3.17	2.56	2.49	2.42	2.26	3.12	3.46	2.85	3.80	4.40	3.09	2.60
20	3.10	2.55	2.47	2.42	2.26	3.10	3.58	2.75	3.80	4.58	3.04	2.55
21	3.06	2.46	2.46	2.40	2.28	3.09	3.69	2.64	3.86	4.85	3.03	2.51
22	3.01	2.44	2.44	2.40	2.27	3.02	3.76	2.54	3.98	5.16	3.02	2.48
23	2.99	2.44	2.51	2.39	2.27	2.99	3.78	2.47	4.09	5.48	3.02	2.45
24	2.98	2.44	2.61	2.39	2.33	3.09	3.78	2.43	4.19	6.08	3.01	2.42
25	2.98	2.44	2.60	2.39	2.36	3.29	3.73	2.38	4.36	6.63	3.00	2.43
26	2.97	2.48	2.58	2.38	2.41	3.39	3.67	2.34	4.46	6.98	3.03	2.44
27	2.93	2.53	2.57	2.38	2.45	3.46	3.57	2.29	4.45	7.21	3.02	2.43
28	2.90	2.54	2.57	2.37	2.55	3.48	3.45	2.23	4.39	7.40	3.04	2.41
29	2.87	2.54	2.55	2.37	---	3.51	3.30	2.18	4.35	7.47	3.08	2.41
30	2.85	2.60	2.54	2.37	---	3.56	3.12	2.14	4.40	7.40	3.00	2.41
31	2.83	---	2.54	2.36	---	3.69	---	2.11	---	7.17	2.94	---
TOTAL	108.61	78.61	78.62	75.98	64.45	98.03	102.65	83.29	99.49	165.78	114.25	81.92
MEAN	3.50	2.62	2.54	2.45	2.30	3.16	3.42	2.69	3.32	5.35	3.69	2.73
MAX	4.29	2.82	2.68	2.55	2.55	3.69	4.01	3.32	4.46	7.47	6.77	3.10
MIN	2.83	2.44	2.44	2.36	2.09	2.72	2.88	2.11	1.94	4.27	2.94	2.41

WTR YR 1989 TOTAL 1151.68 MEAN 3.16 MAX 7.47 MIN 1.94

02320500 SUWANNEE RIVER AT BRANFORD, FL
(National stream-quality accounting network station)

LOCATION.--Lat 29°57'20", long 82°55'40", in NE¼ sec.20, T.6 S., R.14 E., Suwannee County, Hydrologic Unit 03110205, near left bank on upstream side of bridge on U.S. Highway 27 at Branford, 10.2 mi upstream from Santa Fe River and 75 mi upstream from mouth.

DRAINAGE AREA.--7,880 mi^2, includes part of watershed in Okefenokee Swamp which is indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1931 to current year.

REVISED RECORDS.--WSP 1905: WDR FL-75-1: Drainage area.

GAGE.--Nonrecording gage. Datum of gage is 4.81 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges during year. Records good.

AVERAGE DISCHARGE.--58 years, 6,984 ft^3/s, 12.04 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 83,900 ft^3/s Apr. 11, 1948, gage height, 34.07 ft; minimum, 1,530 ft^3/s July 1, 2, 1955; minimum gage height, 1.97 ft observed, Jan. 10, 11, 14, 17, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1928 reached a stage of 32.0 ft from floodmark; discharge, 65,000 ft^3/s computed on basis of measured crest flow at Ellaville (station 02319500).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 6,830 ft^3/s July 31, gage height, 9.41 ft; minimum daily discharge, 2,290 ft^3/s June 6, gage height, 3.39 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5560	3510	3130	2840	2520	2700	3710	3390	2370	4550	6740	3490
2	5400	3490	3180	2820	2520	2740	3840	3280	2350	4580	6640	3470
3	5300	3470	3180	2790	2510	2840	3930	3080	2330	4740	6480	3570
4	5300	3450	3180	2780	2510	2920	3960	3010	2310	4910	6170	3580
5	5240	3520	3150	2770	2490	2980	3880	2950	2300	4980	5890	3590
6	5250	3480	3120	2790	2470	3040	3760	2950	2290	5050	5580	3580
7	5250	3460	3100	2800	2490	3080	3660	2890	2330	5050	5270	3570
8	5200	3450	3080	2810	2470	3120	3590	2840	2340	5060	4990	3550
9	5180	3450	3060	2780	2450	3160	3500	2840	2350	5090	4690	3550
10	5110	3430	3030	2760	2440	3220	3390	2860	2440	5090	4550	3520
11	4970	3360	3040	2740	2430	3280	3300	2900	2860	5000	4470	3460
12	4890	3310	3030	2710	2440	3350	3260	3080	3320	4950	4420	3360
13	4780	3240	3040	2710	2440	3440	3220	3220	3440	4940	4350	3310
14	4650	3220	3040	2710	2430	3490	3190	3230	3460	4770	4240	3300
15	4500	3170	3060	2680	2420	3500	3160	3240	3390	4730	4090	3240
16	4440	3150	3060	2670	2420	3520	3150	3050	3390	4740	4060	3270
17	4340	3120	3070	2640	2400	3410	3110	3040	3490	4740	4010	3250
18	4230	3090	3050	2630	2390	3370	3090	3030	3540	4710	3960	3190
19	4190	3080	3030	2630	2380	3340	3310	2980	3600	4740	3880	3140
20	4110	3060	3010	2610	2370	3330	3470	2940	3640	4780	3800	3110
21	4060	3030	3010	2600	2360	3320	3580	2880	3750	4890	3700	3050
22	4000	3030	2980	2600	2370	3300	3650	2820	3890	5060	3660	3060
23	3940	3020	2960	2590	2410	3290	3730	2720	3990	5250	3620	3090
24	3890	3010	2930	2570	2450	3260	3760	2690	4110	5400	3600	3010
25	3850	3010	2910	2560	2520	3300	3800	2610	4150	5720	3580	2980
26	3820	3010	2890	2550	2570	3360	3780	2590	4190	6030	3570	2940
27	3780	3010	2880	2560	2640	3490	3750	2550	4230	6270	3640	2910
28	3710	3010	2860	2560	2680	3530	3660	2510	4410	6470	3640	2940
29	3650	3000	2860	2550	---	3580	3580	2440	4440	6630	3550	2930
30	3620	3030	2850	2540	---	3610	3470	2410	4480	6770	3540	2880
31	3550	---	2830	2530	---	3660	---	2400	---	6830	3520	---
TOTAL	139760	96670	93600	82880	68990	101530	106240	89420	99180	162520	137900	97890
MEAN	4508	3222	3019	2674	2464	3275	3541	2885	3306	5243	4448	3263
MAX	5560	3520	3180	2840	2680	3660	3960	3390	4480	6830	6740	3590
MIN	3550	3000	2830	2530	2360	2700	3090	2400	2290	4550	3520	2880
CFSM	.57	.41	.38	.34	.31	.42	.45	.37	.42	.67	.56	.41
IN.	.66	.46	.44	.39	.33	.48	.50	.42	.47	.77	.65	.46
AC-FT	277200	191700	185700	164400	136800	201400	210700	177400	196700	322400	273500	194200

CAL YR 1988 TOTAL 2087720 MEAN 5704 MAX 20400 MIN 2340 CFSM .72 IN 9.86 AC-FT 4141000
WTR YR 1989 TOTAL 1276580 MEAN 3497 MAX 6830 MIN 2290 CFSM .44 IN 6.03 AC-FT 2532000

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.99	5.79	5.18	4.70	4.15	4.37	5.81	5.36	3.59	6.69	9.30	5.15
2	8.78	5.75	5.26	4.67	4.15	4.42	6.00	5.18	3.55	6.73	9.20	5.11
3	8.64	5.71	5.26	4.62	4.13	4.57	6.13	4.86	3.50	6.93	9.01	5.28
4	8.63	5.68	5.26	4.60	4.12	4.68	6.17	4.74	3.45	7.15	8.65	5.29
5	8.54	5.80	5.21	4.58	4.08	4.78	6.05	4.65	3.42	7.22	8.31	5.31
6	8.54	5.73	5.16	4.61	4.06	4.85	5.88	4.64	3.39	7.30	7.93	5.30
7	8.52	5.70	5.13	4.63	4.09	4.90	5.72	4.56	3.46	7.29	7.55	5.29
8	8.45	5.68	5.10	4.64	4.05	4.94	5.63	4.47	3.46	7.30	7.18	5.27
9	8.41	5.68	5.07	4.59	4.01	4.99	5.49	4.47	3.46	7.33	6.78	5.27
10	8.32	5.66	5.02	4.57	3.99	5.06	5.35	4.51	3.61	7.32	6.60	5.23
11	8.11	5.54	5.03	4.53	3.98	5.15	5.18	4.57	4.34	7.19	6.50	5.14
12	7.99	5.46	5.02	4.48	4.00	5.24	5.12	4.86	5.09	7.11	6.42	4.98
13	7.84	5.35	5.03	4.47	3.99	5.36	5.06	5.09	5.26	7.09	6.34	4.90
14	7.65	5.32	5.04	4.47	3.98	5.43	5.00	5.11	5.28	6.86	6.18	4.90
15	7.43	5.25	5.06	4.43	3.97	5.46	4.96	5.13	5.16	6.79	5.98	4.80
16	7.33	5.21	5.07	4.40	3.97	5.48	4.95	4.83	5.15	6.79	5.94	4.86
17	7.19	5.16	5.08	4.36	3.92	5.33	4.88	4.81	5.29	6.79	5.86	4.83
18	7.02	5.12	5.05	4.34	3.90	5.26	4.85	4.80	5.37	6.74	5.80	4.73
19	6.94	5.09	5.01	4.33	3.89	5.22	5.20	4.71	5.44	6.77	5.69	4.66
20	6.82	5.06	4.99	4.31	3.87	5.20	5.46	4.64	5.50	6.84	5.57	4.61
21	6.74	5.02	4.98	4.29	3.86	5.18	5.62	4.55	5.65	6.98	5.43	4.52
22	6.64	5.01	4.94	4.29	3.88	5.15	5.73	4.46	5.85	7.22	5.37	4.54
23	6.54	5.00	4.90	4.26	3.94	5.14	5.86	4.29	5.99	7.46	5.32	4.59
24	6.45	4.98	4.85	4.24	4.02	5.10	5.91	4.24	6.15	7.65	5.29	4.47
25	6.38	4.98	4.81	4.21	4.12	5.16	5.96	4.10	6.20	8.07	5.25	4.42
26	6.32	4.99	4.79	4.20	4.20	5.26	5.93	4.04	6.25	8.45	5.25	4.35
27	6.25	4.99	4.77	4.22	4.30	5.46	5.89	3.96	6.29	8.73	5.35	4.32
28	6.14	4.98	4.74	4.22	4.35	5.52	5.75	3.88	6.53	8.98	5.37	4.36
29	6.03	4.96	4.74	4.20	---	5.59	5.63	3.75	6.56	9.16	5.23	4.35
30	5.97	5.01	4.72	4.18	---	5.64	5.48	3.69	6.61	9.34	5.21	4.27
31	5.86	---	4.68	4.16	---	5.72	---	3.65	---	9.41	5.20	---
TOTAL	229.46	159.66	154.95	136.80	112.97	159.61	166.65	140.60	148.85	231.68	199.06	145.10
MEAN	7.40	5.32	5.00	4.41	4.03	5.15	5.55	4.54	4.96	7.47	6.42	4.84
MAX	8.99	5.80	5.26	4.70	4.35	5.72	6.17	5.36	6.61	9.41	9.30	5.31
MIN	5.86	4.96	4.68	4.16	3.86	4.37	4.85	3.65	3.39	6.69	5.20	4.27

CAL YR 1988 TOTAL 3002.21 MEAN 8.20 MAX 21.04 MIN 4.15
WTR YR 1989 TOTAL 1985.39 MEAN 5.44 MAX 9.41 MIN 3.39

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1954 to September 1957, October 1962 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUC-TANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV 25...	1130	3000	320	8.20	19.5	1.1	6.9	75	32	K24	160
MAR 17...	1145	3410	218	8.00	21.0	3.4	6.9	77	K20	K20	96
MAY 31...	1420	2400	312	8.10	26.5	1.2	6.5	80	K7	27	150
AUG 22...	1730	3660	272	8.00	27.0	1.2	6.6	83	400	64	130

DATE	HARD-NESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA-LINITY LAB (MG/L AS CACO3)	ALKA-LINITY WAT.DIS FIELD INC.T. (MG/L CACO3)
NOV 25...	24	24	48	9.7	5.7	7	.2	.70	162	136	133
MAR 17...	20	20	28	6.2	8.0	15	.4	1.6	89	76	73
MAY 31...	23	23	46	8.8	7.2	9	.3	.80	154	128	126
AUG 22...	22	22	41	7.5	6.8	10	.3	.90	130	112	107

DATE	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
NOV 25...	1.6	27	6.3	.20	8.5	195	190	.27	1580	<.010	1.1
MAR 17...	1.5	17	10	.20	8.1	140	130	.19	1290	.010	.64
MAY 31...	2.0	20	7.0	.20	7.6	177	180	.24	1150	<.010	.64
AUG 22...	2.2	19	6.9	.20	8.7	167	160	.23	1650	<.010	.62

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)
NOV 25...	.030	.020	.03	--	.17	.20	.180	.180	.160	.49	30
MAR 17...	.030	.010	.01	.03	.37	.40	.210	.180	.180	.55	90
MAY 31...	<.010	<.010	--	--	--	<.20	.150	.180	.150	.46	50
AUG 22...	.020	.020	.03	--	.28	.30	.160	.150	.150	.46	90

02320500 SUWANNEE RIVER AT BRANFORD, FL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV											
25...	<1	9	<.5	<1	1	<3	1	75	<5	<4	6
MAR											
17...	1	18	<.5	1	1	<3	<1	250	<5	<4	6
MAY											
31...	<1	12	<.5	<1	1	<3	1	120	1	5	9
AUG											
22...	<1	14	<.5	<1	<1	<3	<1	260	<1	<4	8

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV											
25...	<.1	<10	3	<1	<1	93	<6	4	1	8.1	0
MAR											
17...	<.1	<10	<1	<1	<1	62	<6	23	9	83	44
MAY											
31...	<.1	<10	1	<1	<1	89	<6	<3	1	6.5	100
AUG											
22...	<.1	<10	<1	<1	<1	82	<6	3	22	217	41

02320700 SANTA FE RIVER NEAR GRAHAM, FL

LOCATION.--Lat 29°50'46", long 82°13'11", in NE¼ sec.32, T.7 S., R.21 E., Alachua County, Hydrologic Unit 03110206, near left bank on upstream side of bridge on State Highway 225, 1.0 mi south of Graham, 1.5 mi upstream from Sampson River, and 71 mi upstream from mouth.

DRAINAGE AREA.--94.9 mi².

PERIOD OF RECORD.--August 1957 to current year.

REVISED RECORDS.--WSP 2105: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 103.55 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Records do not include diversions during periods of high stages from Santa Fe Lake through Lochloosa Creek in St. Johns River basin.

AVERAGE DISCHARGE.--32 years, 56.1 ft³/s, 8.03 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,360 ft³/s Sept. 12, 1964, gage height, 14.97 ft; minimum, 0.02 ft³/s June 1, 1981, gage height, 2.72 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge base of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Sept. 8	1100	*82	*5.93				

Minimum discharge, 0.05 ft³/s June 4, gage height, 2.77 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	7.5	40	12	6.7	4.0	1.2	.39	.08	23	2.1	31
2	36	7.5	36	11	6.4	13	.99	.54	.07	24	2.2	28
3	39	7.1	33	11	6.1	13	.85	.40	.07	23	2.8	22
4	47	7.9	30	11	5.8	11	.76	.36	.07	21	2.1	34
5	43	9.8	27	9.8	5.5	9.9	.75	.29	.16	18	1.2	48
6	39	10	25	9.3	5.3	8.6	.91	.26	.19	15	.80	45
7	35	9.5	23	9.0	5.1	7.6	.96	.24	.24	12	.51	68
8	31	9.6	22	8.6	4.8	6.7	.81	.21	.60	9.8	.34	79
9	28	9.9	20	8.2	4.3	6.2	.71	.17	.76	7.6	.27	71
10	25	11	19	8.1	3.6	5.7	.64	.21	.34	5.9	.30	68
11	23	11	20	8.0	3.1	5.3	.66	.26	.21	4.4	1.2	56
12	20	11	25	7.7	2.8	4.9	.82	.29	.16	3.0	8.8	41
13	18	11	24	7.5	2.5	4.5	.87	.23	.14	2.2	5.7	30
14	16	11	23	7.3	2.4	3.9	.88	.23	.12	1.9	5.1	23
15	14	11	22	7.0	2.3	3.5	1.1	.22	.10	1.8	4.5	19
16	13	13	21	6.7	2.1	3.1	1.5	.19	.12	1.7	3.5	19
17	12	15	21	6.5	2.0	2.8	1.3	.17	.13	1.5	2.5	22
18	11	16	20	6.0	2.0	2.6	1.1	.16	.33	2.2	1.8	38
19	9.7	18	19	5.7	1.8	2.5	.83	.17	.88	2.9	1.3	46
20	9.3	17	18	5.5	1.8	2.2	.72	.16	2.8	3.6	1.1	47
21	9.0	17	17	6.0	2.0	2.0	2.1	.22	5.2	5.2	2.1	43
22	8.5	17	17	10	6.8	1.8	2.6	.22	4.4	7.1	7.2	38
23	8.1	33	16	11	6.9	2.0	1.2	.31	3.7	6.9	4.9	38
24	7.7	35	16	10	5.5	2.2	.77	.28	4.2	6.6	3.2	32
25	7.5	35	15	9.6	5.0	1.9	.53	.31	4.2	6.0	4.7	38
26	7.5	35	15	9.0	4.5	1.7	.41	.24	3.5	5.0	14	38
27	7.2	34	14	8.4	4.1	1.5	.31	.16	2.9	4.4	35	38
28	7.6	50	13	8.1	3.7	1.3	.27	.12	2.2	3.3	61	36
29	7.2	47	13	7.8	---	1.1	.26	.11	12	2.2	53	34
30	7.1	43	12	7.3	---	1.2	.30	.12	21	1.7	39	30
31	7.2	---	12	7.0	---	1.3	---	.09	---	2.0	28	---
TOTAL	592.6	569.8	648	260.1	114.9	139.0	27.11	7.33	70.87	234.9	300.22	1200
MEAN	19.1	19.0	20.9	8.39	4.10	4.48	.90	.24	2.36	7.58	9.68	40.0
MAX	47	50	40	12	6.9	13	2.6	.54	21	24	61	79
MIN	7.1	7.1	12	5.5	1.8	1.1	.26	.09	.07	1.5	.27	19
CFSM	.20	.20	.22	.09	.04	.05	.009	.003	.03	.08	.10	.42
IN.	.23	.22	.25	.10	.05	.05	.01	.00	.03	.09	.12	.47
AC-FT	1180	1130	1290	516	228	276	54	15	141	466	595	2380

CAL YR 1988 TOTAL 18473.72 MEAN 50.5 MAX 751 MIN .25 CFSM .53 IN 7.24 AC-FT 36640
WTR YR 1989 TOTAL 4164.83 MEAN 11.4 MAX 79 MIN .07 CFSM .12 IN 1.63 AC-FT 8260

02321500 SANTA FE RIVER AT WORTHINGTON SPRINGS, FL
(National stream-quality accounting network station)

LOCATION.--Lat 29°55'18", long 82°25'35", in SE1/4 sec.32, T.6 S., R.19 E., Alachua County, Hydrologic Unit 03110206, near center of span on downstream side of bridge on State Highway 121, 0.5 mi south of Worthington Springs, 0.8 mi downstream from New River, and 51 mi upstream from mouth.

DRAINAGE AREA.--575 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1931 to current year. Published as "near Worthington" prior to October 1965. Monthly discharge only for October 1931, published in WSP 1304.

REVISED RECORDS.--WSP 2105: WDR FL-76-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 42.74 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Jan. 16, 1939, nonrecording gage at site 0.2 mi downstream at present datum; Jan. 16, 1939 to July 23, 1953, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Records do not include diversions, during periods of high stages from Santa Fe Lake through Lochloosa Creek in St. Johns River basin.

AVERAGE DISCHARGE.--58 years, 441 ft^3/s, 10.42 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft^3/s Sept. 13, 1964, gage height, 28.40 ft; minimum, 0.50 ft^3/s June 24, 1955, gage height, 6.74 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 625 ft^3/s Sept. 8, gage height, 13.61 ft; minimum, 1.1 ft^3/s June 5, 6, gage height, 7.15 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	470	72	136	63	48	32	22	11	2.0	78	57	247
2	442	70	124	67	47	58	20	12	1.8	80	55	223
3	427	67	113	64	46	94	19	13	1.6	72	71	179
4	488	74	103	62	44	98	18	13	1.4	66	63	294
5	523	85	96	58	43	90	36	11	1.2	56	47	418
6	536	98	90	56	42	78	43	9.9	2.0	52	36	518
7	520	102	85	54	41	67	35	8.5	2.6	51	29	606
8	475	99	80	52	40	60	30	7.4	5.0	46	25	621
9	420	92	77	51	38	54	28	6.7	8.5	40	24	615
10	367	85	74	50	36	51	25	6.7	12	34	26	596
11	319	80	74	49	34	47	22	7.7	10	28	25	532
12	280	76	96	49	33	44	21	8.7	9.0	23	36	441
13	248	73	112	49	31	41	20	8.5	7.0	33	39	351
14	222	70	112	48	30	38	19	8.4	6.1	49	56	275
15	201	69	107	47	30	36	24	7.2	5.0	46	108	213
16	183	66	101	46	29	34	37	6.1	3.2	57	169	183
17	167	64	97	44	28	32	40	5.2	2.6	60	169	181
18	154	63	92	42	28	30	32	4.7	3.2	55	130	254
19	143	62	87	41	28	29	25	4.3	8.7	60	116	303
20	133	61	84	40	28	27	20	4.0	16	71	135	332
21	125	60	81	42	28	26	17	3.8	16	68	157	310
22	117	62	79	60	38	26	16	4.3	16	99	156	269
23	108	95	76	75	49	30	14	4.4	28	154	182	267
24	101	124	74	71	46	35	14	5.0	35	193	208	294
25	96	127	72	64	40	35	13	5.5	41	209	153	300
26	92	120	70	58	36	33	11	5.5	44	204	170	292
27	87	110	67	55	34	29	11	5.0	45	190	261	288
28	83	116	65	52	33	27	9.8	4.1	44	171	265	275
29	78	131	64	51	---	25	8.8	3.4	59	143	239	284
30	77	139	63	50	---	23	10	2.9	86	107	242	292
31	74	---	62	50	---	23	---	2.4	---	75	234	---
TOTAL	7756	2612	2713	1660	1028	1352	660.6	210.3	522.9	2670	3683	10253
MEAN	250	87.1	87.5	53.5	36.7	43.6	22.0	6.78	17.4	86.1	119	342
MAX	536	139	136	75	49	98	43	13	86	209	265	621
MIN	74	60	62	40	28	23	8.8	2.4	1.2	23	24	179
CFSM	.44	.15	.15	.09	.06	.08	.04	.01	.03	.15	.21	.60
IN.	.50	.17	.18	.11	.07	.09	.04	.01	.03	.17	.24	.66
AC-FT	15380	5180	5380	3290	2040	2680	1310	417	1040	5300	7310	20340

CAL YR 1988 TOTAL 198717.7 MEAN 543 MAX 7430 MIN 5.0 CFSM .94 IN 12.86 AC-FT 394200
WTR YR 1989 TOTAL 35120.8 MEAN 96.2 MAX 621 MIN 1.2 CFSM .17 IN 2.27 AC-FT 69660

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1957 to September 1960, October 1963 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUC-TANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV											
23...	1345	97	124	7.30	19.0	1.4	6.8	74	350	500	46
MAR											
16...	1600	34	192	7.70	21.0	1.2	7.6	85	K24	35	72
MAY											
30...	1500	3.0	283	8.20	26.5	.60	6.2	76	47	K8	100
AUG											
23...	1640	189	106	6.90	26.5	1.7	5.5	68	400	330	39

DATE	HARD-NESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA-LINITY LAB (MG/L AS CACO3)	ALKA-LINITY WAT.DIS FIELD INC.T. (MG/L CACO3)
NOV											
23...	17	17	11	4.4	8.1	27	.5	1.3	34	29	28
MAR											
16...	18	18	17	7.2	12	26	.6	1.4	62	54	51
MAY											
30...	8	8	23	11	19	28	.8	1.7	115	95	94
AUG											
23...	23	23	10	3.4	6.8	27	.5	1.0	20	16	16

DATE	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
NOV											
23...	2.8	16	13	.10	6.5	109	79	.15	29	.030	.11
MAR											
16...	2.1	24	17	.20	1.7	106	110	.14	9.7	.010	.29
MAY											
30...	1.2	10	23	.40	4.0	170	150	.23	1.4	<.010	<.10
AUG											
23...	3.9	10	11	.10	7.2	118	61	.16	60	.010	<.10

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)
NOV											
23...	.080	.040	.05	.10	.82	.90	.350	.340	.300	.92	170
MAR											
16...	.040	.020	.03	.03	.46	.50	.580	.550	.510	1.6	80
MAY											
30...	<.010	.010	.01	--	--	.40	1.60	1.50	1.30	4.0	50
AUG											
23...	.030	.050	.06	.03	1.2	1.2	.300	.270	.260	.80	460

02321500 SANTA FE RIVER AT WORTHINGTON SPRINGS, FL--Continued

WATER-QUALITY RECORDS--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV											
23...	1	10	<.5	1	1	<3	2	320	<5	<4	11
MAR											
16...	<1	14	<.5	1	2	<3	<1	160	<5	<4	18
MAY											
30...	<1	13	<.5	<1	1	<3	1	65	2	<4	56
AUG											
23...	<1	13	<.5	<1	2	<3	<1	530	1	<4	22

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV											
23...	<.1	<10	1	<1	<1	37	<6	10	1	.26	100
MAR											
16...	<.1	<10	4	<1	<1	68	<6	16	6	.55	33
MAY											
30...	<.1	<10	1	<1	<1	110	<6	12	2	.02	100
AUG											
23...	<.1	<10	1	<1	<1	37	<6	9	7	3.6	100

02322016 BLUES CREEK NEAR GAINESVILLE, FL

LOCATION.--Lat 29°43'41", long 82°25'54", in NW¼ sec.8, T.9 S., R.19 E., Alachua County, Hydrologic Unit 03080102, about 1 mi above sink, 1 mi northwest of University of Florida Agricultural Experiment Station, 6.0 mi southeast of Alachua and 7.6 mi northwest of Gainesville.

DRAINAGE AREA.--5.04 mi², of which 3.5 mi² are noncontributing at low and medium discharge.

PERIOD OF RECORD.--June 1984 to current year.

REVISED RECORDS.--WDR FL-88-4: 1985, 1987(M).

GAGE.--Water-stage recorder. Elevation of the gage is 105 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 12 to May 2. Records fair.

AVERAGE DISCHARGE.--5 years (water years 1985-1989), 3.75 ft³/s, 10.10 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 324 ft³/s, Aug. 31, 1985, gage height, 6.15 ft from floodmarks; minimum daily, 0.10 ft³/s, June 4, 5, 15, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 95 ft³/s, Sept. 30, gage height 5.14 ft; minimum daily, 0.10 ft³/s June 4, 5, 15, 1989.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	.50	2.6	1.2	.82	.85	.26	e.24	.12	.93	.27	3.7
2	4.2	.48	2.2	1.1	.78	2.1	.26	e.19	.12	.85	.26	4.4
3	5.1	.45	1.9	1.1	.75	1.8	.24	.17	.11	.78	.26	2.2
4	7.2	1.1	1.7	1.0	.69	1.5	.25	.16	.10	.82	.23	2.8
5	5.6	1.4	1.6	.90	.64	1.2	.40	.15	.10	.70	.22	3.3
6	4.5	1.2	1.4	.88	.62	1.1	.32	.16	.19	.57	.22	3.5
7	3.7	.96	1.5	.83	.59	.96	.26	.15	.15	.47	.21	2.6
8	3.3	.80	1.3	.83	.59	.89	.25	.14	.26	.40	.23	2.0
9	3.2	.72	1.2	.79	.53	.83	.25	.14	.16	.35	.23	1.4
10	3.1	.65	1.1	.77	.51	.77	.23	.20	.14	.33	.26	1.1
11	2.6	.62	2.0	.77	.52	.70	.28	.19	.13	.31	.26	.91
12	1.9	.59	3.3	.77	.57	.65	e.35	.15	.12	.33	.30	.74
13	1.7	.59	2.9	.73	.53	.62	e.37	.14	.12	.31	.27	.65
14	1.5	.59	2.4	.70	.48	.59	e.37	.15	.11	.33	.47	.59
15	1.4	.59	2.1	.70	.44	.57	e.65	.13	.10	.32	.59	.62
16	1.3	.54	2.0	.64	.44	.53	e.50	.13	.15	.32	.43	.86
17	1.2	.56	2.1	.60	.42	.49	e.38	.12	.13	.34	.38	.90
18	1.1	.59	1.9	.59	.46	.49	e.29	.15	.17	.31	.32	.80
19	1.1	.59	1.8	.59	.48	.46	e.23	.16	.17	.37	.29	.56
20	.99	.59	1.7	.58	.44	.44	e.73	.15	.16	.49	.38	.46
21	.93	.59	1.5	1.1	.47	.43	e.90	.40	1.4	1.3	.36	.42
22	.83	1.2	1.4	2.4	1.0	.42	e.43	.26	1.0	3.3	.34	.61
23	.75	4.2	1.4	1.9	70	.55	e.28	.20	1.6	2.6	.48	1.3
24	.71	2.6	1.3	1.5	.58	.58	e.23	.20	1.7	1.8	.92	1.3
25	.66	1.9	1.3	1.3	.54	.48	e.17	.18	1.0	1.1	2.0	1.3
26	.62	1.5	1.3	1.1	.53	.43	e.15	.17	.75	.81	1.7	1.3
27	.59	1.3	1.2	1.1	.53	.38	e.14	.15	.61	.62	.97	1.2
28	.56	6.7	1.2	1.0	.49	.34	e.13	.15	.55	.49	.69	.92
29	.52	4.5	1.2	.93	---	.31	e.13	.15	1.9	.40	.52	.79
30	.52	3.2	1.2	.85	---	.31	e.19	.16	1.2	.34	.42	9.1
31	.52	---	1.2	.87	---	.32	---	.13	---	.30	1.2	---
TOTAL	66.90	41.80	52.9	30.12	16.14	22.09	9.62	5.32	14.52	22.69	15.68	52.33
MEAN	2.16	1.39	1.71	.97	.58	.71	.32	.17	.48	.73	.51	1.74
MAX	7.2	6.7	3.3	2.4	1.0	2.1	.90	.40	1.9	3.3	2.0	9.1
MIN	.52	.45	1.1	.58	.42	.31	.13	.12	.10	.30	.21	.42
AC-FT	133	83	105	60	32	44	19	11	29	45	31	104
CFSM	1.40	.90	1.11	.63	.37	.46	.21	.11	.31	.48	.33	1.13
IN.	1.62	1.01	1.28	.73	.39	.53	.23	.13	.35	.55	.38	1.26

CAL YR 1988 TOTAL 1953.72 MEAN 5.34 MAX 95 MIN .24 AC-FT 3880 CFSM 3.47 IN. 47.19
WTR YR 1989 TOTAL 350.11 MEAN .96 MAX 9.1 MIN .10 AC-FT 694 CFSM .62 IN. 8.46

e Estimated

02322500 SANTA FE RIVER NEAR FORT WHITE, FL

LOCATION.--Lat 29°50'55", long 82°42'55", in SE1/4 sec.28, T.7 S., R.16 E., Gilchrist County, Hydrologic Unit 03110206, on left bank 2.1 mi upstream from bridge on State Highway 47, 5.1 mi south of Fort White, and 18 mi upstream from mouth.

DRAINAGE AREA.--1,017 mi^2.

PERIOD OF RECORD.--October 1927 to January 1930, June 1932 to current year.

REVISED RECORDS.--WDR FL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 20.86 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to June 3, 1932, nonrecording gage at several sites within 200 ft of present site at various datums. Oct. 1, 1947 to Feb. 10, 1949, auxiliary nonrecording gage and since Feb. 11, 1949, auxiliary water-stage recorder at bridge on U.S. Highway 129, 16 mi downstream from base gage at datum 3.5 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges . Records good.

AVERAGE DISCHARGE.--59 years (water years 1928-29, 1933-89), 1,621 ft^3/s, 21.65 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,000 ft^3/s Sept. 16, 1964, gage height, 15.34 ft; minimum 609 ft^3/s May 22, 1957; minimum gage height, 0.45 ft Mar. 20, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,560 ft^3/s Oct. 1, gage height, 2.86 ft, occurred on recession following peak of Sept. 13, 1988; no independent peak discharge during year; minimum, 812 ft^3/s June 18; minimum gage height, 0.84 ft, June 3-5, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2530	1570	1350	1200	1130	1110	1020	957	833	881	1010	1130
2	2480	1540	1340	1200	1130	1080	1000	946	833	885	1000	1140
3	2470	1520	1330	1190	1120	1080	1000	939	830	887	1010	1180
4	2440	1540	1330	1180	1120	1070	1000	939	830	893	1010	1180
5	2390	1550	1320	1170	1120	1060	1010	937	830	889	1020	1180
6	2350	1500	1310	1170	1110	1060	1000	934	843	881	1020	1210
7	2330	1480	1310	1160	1110	1070	1010	929	844	878	1010	1260
8	2300	1470	1300	1160	1110	1070	1010	928	878	878	994	1310
9	2260	1470	1290	1160	1100	1080	1000	918	857	876	997	1350
10	2220	1460	1280	1160	1100	1060	991	926	843	868	988	1370
11	2170	1460	1310	1160	1090	1090	994	921	836	864	981	1390
12	2120	1440	1310	1180	1090	1080	991	912	836	855	977	1390
13	2070	1430	1300	1180	1090	1080	986	905	835	945	975	1380
14	2020	1420	1280	1170	1090	1080	992	904	829	885	970	1350
15	1990	1410	1280	1150	1080	1060	1010	901	827	877	970	1320
16	1950	1400	1280	1150	1080	1060	992	891	826	881	973	1320
17	1920	1390	1280	1140	1080	1060	980	883	821	887	985	1320
18	1880	1370	1260	1130	1080	1050	982	878	823	897	1000	1310
19	1850	1370	1250	1130	1080	1050	988	880	828	900	1010	1290
20	1830	1360	1250	1130	1080	1040	985	870	845	904	1020	1290
21	1820	1350	1240	1130	1080	1040	976	872	859	911	1020	1300
22	1780	1390	1230	1150	1150	1040	971	869	847	940	1020	1310
23	1750	1410	1230	1150	1140	1040	968	865	862	944	1030	1310
24	1720	1360	1230	1140	1130	1040	962	861	865	942	1040	1300
25	1690	1360	1220	1140	1120	1030	959	859	853	959	1070	1300
26	1670	1360	1210	1140	1110	1030	959	853	851	976	1060	1300
27	1650	1360	1200	1140	1100	1030	959	849	849	990	1070	1300
28	1620	1390	1200	1140	1100	1030	955	843	849	1000	1080	1300
29	1610	1350	1200	1140	---	1030	950	836	867	1020	1090	1290
30	1590	1350	1200	1140	---	1030	950	836	874	1010	1110	1290
31	1580	---	1200	1140	---	1030	---	836	---	1010	1120	---
TOTAL	62050	42830	39320	35820	30920	32760	29550	27677	25303	28413	31630	38670
MEAN	2002	1428	1268	1155	1104	1057	985	893	843	917	1020	1289
MAX	2530	1570	1350	1200	1150	1110	1020	957	878	1020	1120	1390
MIN	1580	1350	1200	1130	1080	1030	950	836	821	855	970	1130
CFSM	1.97	1.40	1.25	1.14	1.09	1.04	.97	.88	.83	.90	1.00	1.27
IN.	2.27	1.57	1.44	1.31	1.13	1.20	1.08	1.01	.93	1.04	1.16	1.41
AC-FT	123100	84950	77990	71050	61330	64980	58610	54900	50190	56360	62740	76700

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CAL YR 1988   TOTAL   696100   MEAN  1902   MAX  7030   MIN  1110   CFSM 1.87   IN 25.46   AC-FT   1381000
WTR YR 1989   TOTAL   424943   MEAN  1164   MAX  2530   MIN   821   CFSM 1.15   IN 15.54   AC-FT    842900
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02323500 SUWANNEE RIVER NEAR WILCOX, FL

LOCATION.--Lat 29°35'22", long 82°56'12", in NW¼ sec.29, T.10 S., R.14 E., Levy County, Hydrologic Unit 03110205, on left bank about 400 ft downstream from Fort Fannin Bridge on U.S. Highway 19, 2.0 mi southwest of Wilcox and 33 mi upstream from mouth.

DRAINAGE AREA.--9,640 mi^2, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD.--October 1930 to September 1931, October 1941 to current year. Monthly discharge only for some periods, published in WSP 1304.

REVISED RECORDS.--WSP 1905: WDR FL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.53 ft below National Geodetic Vertical Datum of 1929. Prior to July 4, 1931, nonrecording gage at site 400 ft upstream at present datum. July 4 to Sept. 30, 1931, and Mar. 26 to May 14, 1942, water-stage recorder, and May 15, 1942 to Jan. 24, 1951, nonrecording gage at present site and datum. Since Feb. 1, 1951, auxiliary water-stage recorder about 9.0 mi downstream from base gage. Datum of auxiliary gage is 2.99 ft below National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Flow generally affected by tide when discharge is less than 17,500 ft^3/s.

AVERAGE DISCHARGE.--49 years (water years 1931, 1942-89), 10,580 ft^3/s, 14.90 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 84,700 ft^3/s Apr. 14, 1948, gage height, 22.32 ft; minimum daily since January 1951, 2,960 ft^3/s Oct. 25, 1981; minimum gage height since January 1951, 0.57 ft Jan. 19, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,500 ft^3/s Oct. 8; maximum gage height, 5.42 ft Oct. 3; minimum daily, 4,580 ft^3/s June 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10900	7570	7960	6300	6070	6700	7990	5470	5240	6620	8730	5720
2	10700	7580	9360	6530	6250	6470	7390	6830	5160	6480	9000	5690
3	10200	6930	8000	6280	6250	5870	6910	6220	5130	6540	8770	5940
4	10900	6500	7260	7130	6190	6040	6780	6050	5140	6860	8610	5910
5	11300	5980	7170	6890	5870	6100	6740	5310	4840	6660	8170	6400
6	11600	7340	7060	6080	5650	6110	7130	5510	4580	7070	7930	6410
7	11400	7550	6690	6160	5450	6700	6250	5970	4780	7110	7470	6350
8	11600	7170	6640	6170	5800	7250	6800	6230	4740	7140	7270	6400
9	10600	7090	6440	6150	7900	7840	6320	5770	4790	7310	7440	6430
10	10000	6740	6600	6230	7170	7800	6560	5120	5410	7410	7450	6230
11	9290	6920	6730	6480	6720	7110	8080	6480	6090	7450	7530	6160
12	9220	7000	7180	6000	6820	6350	8090	6920	6200	7340	7340	5890
13	9890	6740	7440	6250	6410	6320	7770	6620	5840	7190	6790	5790
14	10200	6960	7070	6520	6560	6270	7060	6680	6090	6940	6480	5620
15	9340	7010	6750	6050	6630	6520	6100	6320	5610	6650	6260	5630
16	9140	6350	6980	6610	6650	6710	6560	6460	5350	6860	6160	5430
17	8950	6860	7560	7130	7340	6730	6480	6260	5940	6470	6200	5870
18	8840	6810	7920	7230	6760	6420	6220	6420	5980	6530	6180	6060
19	8550	6310	7020	6630	6330	6410	6170	6070	5900	6350	6120	6020
20	8060	6080	6580	6420	5680	6270	6190	5970	5780	6410	6340	6250
21	7430	6580	6710	8610	5060	5950	6690	5680	5890	6500	5900	6270
22	7860	6990	6870	9170	5870	6040	6560	5850	6110	6980	6130	5630
23	7360	8050	6560	7530	8060	5630	6610	5560	6120	7410	6160	5720
24	7130	7470	6470	6780	8660	6580	6680	5560	6170	7740	6050	6170
25	7890	6860	6560	6550	7550	6560	6680	5720	6310	8000	5980	5350
26	7440	6180	6960	6210	6950	6630	6780	5890	6460	8420	5860	5620
27	7170	5960	6730	6150	5700	6550	6800	6450	6460	8510	5870	5980
28	7440	6930	6160	6380	5800	6690	6700	6430	6390	8560	5680	6090
29	7590	8240	6660	6190	---	6590	6600	6160	6390	8430	5660	5510
30	7610	6920	6420	5830	---	6170	6180	5880	6480	8610	5670	5220
31	7620	---	6270	6480	---	6530	---	5480	---	8630	5720	---
TOTAL	283220	207670	216780	205120	182150	201910	203870	187340	171370	225180	210920	177760
MEAN	9136	6922	6993	6617	6505	6513	6796	6043	5712	7264	6804	5925
MAX	11600	8240	9360	9170	8660	7840	8090	6920	6480	8630	9000	6430
MIN	7130	5960	6160	5830	5060	5630	6100	5120	4580	6350	5660	5220
CFSM	.95	.72	.73	.69	.68	.68	.71	.63	.59	.75	.71	.62
IN.	1.09	.80	.84	.79	.70	.78	.79	.72	.66	.87	.81	.69
AC-FT	561800	411900	430000	406900	361300	400500	404400	371600	339900	446600	418400	352600

CAL YR 1988 TOTAL 3642200 MEAN 9951 MAX 25300 MIN 5170 CFSM 1.03 IN 14.05 AC-FT 7224000
WTR YR 1989 TOTAL 2473290 MEAN 6776 MAX 11600 MIN 4580 CFSM .70 IN 9.54 AC-FT 4906000

02323500 SUWANNEE RIVER NEAR WILCOX, FL--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.15	3.47	2.77	3.08	2.84	2.80	2.87	3.73	2.92	3.62	4.60	3.56
2	5.07	3.43	2.65	2.94	2.81	2.78	2.90	3.40	3.00	3.63	4.50	3.49
3	5.18	3.55	2.69	3.02	2.86	3.11	3.40	2.97	3.01	3.73	4.46	3.49
4	5.12	3.94	2.97	2.95	2.95	3.16	3.60	3.02	3.01	3.75	4.34	3.53
5	4.71	4.46	3.08	2.74	3.06	3.18	3.60	3.44	3.14	3.87	4.28	3.31
6	4.50	4.12	3.09	3.27	3.19	3.31	3.37	3.46	3.23	3.83	4.16	3.18
7	4.45	3.51	3.28	3.39	3.30	2.97	3.49	3.02	3.22	3.75	4.10	3.14
8	4.37	3.47	3.43	3.34	3.12	2.76	3.46	2.89	3.24	3.68	3.99	3.09
9	4.49	3.50	3.55	3.28	2.49	2.58	3.54	2.99	3.46	3.67	3.72	3.06
10	4.67	3.64	3.37	3.15	2.39	2.59	3.30	3.35	2.85	3.55	3.45	3.13
11	4.79	3.65	3.37	2.91	2.67	2.82	2.78	2.92	2.61	3.45	3.28	3.23
12	4.82	3.45	3.02	2.96	2.68	3.11	2.46	2.62	2.72	3.41	3.29	3.31
13	4.53	3.59	2.83	2.97	2.75	3.30	2.56	2.68	3.08	3.47	3.43	3.42
14	4.18	3.46	2.88	2.82	2.72	3.37	2.63	2.75	3.12	3.55	3.56	3.56
15	4.22	3.31	3.09	2.93	2.64	3.32	3.12	2.86	3.31	3.70	3.68	3.62
16	4.22	3.47	3.13	2.87	2.66	3.09	3.00	2.77	3.47	3.60	3.68	3.70
17	4.21	3.44	2.86	2.73	2.59	2.95	2.86	2.80	3.28	3.77	3.64	3.57
18	4.07	3.17	2.74	2.69	2.42	3.11	2.97	2.75	3.14	3.81	3.57	3.32
19	4.07	3.41	2.94	2.76	2.69	3.15	3.09	2.88	3.25	3.93	3.59	3.14
20	4.14	3.83	3.19	2.91	2.92	3.16	3.21	2.96	3.44	4.01	3.50	2.92
21	4.38	3.56	3.30	2.63	3.42	3.44	3.05	3.05	3.53	4.06	3.48	2.85
22	4.26	3.25	3.22	2.16	3.22	3.43	3.14	2.99	3.42	3.98	3.44	3.13
23	4.25	2.85	3.24	2.28	2.49	3.56	3.26	3.05	3.43	3.91	3.29	3.20
24	4.37	2.83	3.30	2.66	2.05	3.23	3.31	3.01	3.50	3.85	3.22	3.04
25	4.11	3.21	3.25	2.78	2.18	2.94	3.30	2.90	3.49	3.87	3.29	3.21
26	4.03	3.51	2.91	2.83	2.60	2.94	3.23	2.77	3.39	3.91	3.28	3.49
27	4.13	3.89	2.91	2.88	2.98	3.02	3.18	2.58	3.43	4.05	3.37	3.03
28	4.03	3.74	3.18	2.80	3.20	2.99	3.16	2.52	3.53	4.23	3.47	2.85
29	3.83	2.69	2.98	2.80	---	3.06	3.12	2.55	3.70	4.42	3.48	3.11
30	3.73	2.91	2.91	2.87	---	3.37	3.25	2.73	3.72	4.51	3.49	3.47
31	3.52	---	2.96	2.83	---	3.41	---	2.86	---	4.59	3.54	---
TOTAL	135.60	104.31	95.09	89.23	77.89	96.01	94.21	91.27	97.64	119.16	114.15	98.15
MEAN	4.37	3.48	3.07	2.88	2.78	3.10	3.14	2.94	3.25	3.84	3.68	3.27
MAX	5.18	4.46	3.55	3.39	3.42	3.56	3.60	3.73	3.72	4.59	4.60	3.70
MIN	3.52	2.69	2.65	2.16	2.05	2.58	2.46	2.52	2.61	3.41	3.22	2.85

WTR YR 1989 TOTAL 1212.71 MEAN 3.32 MAX 5.18 MIN 2.05

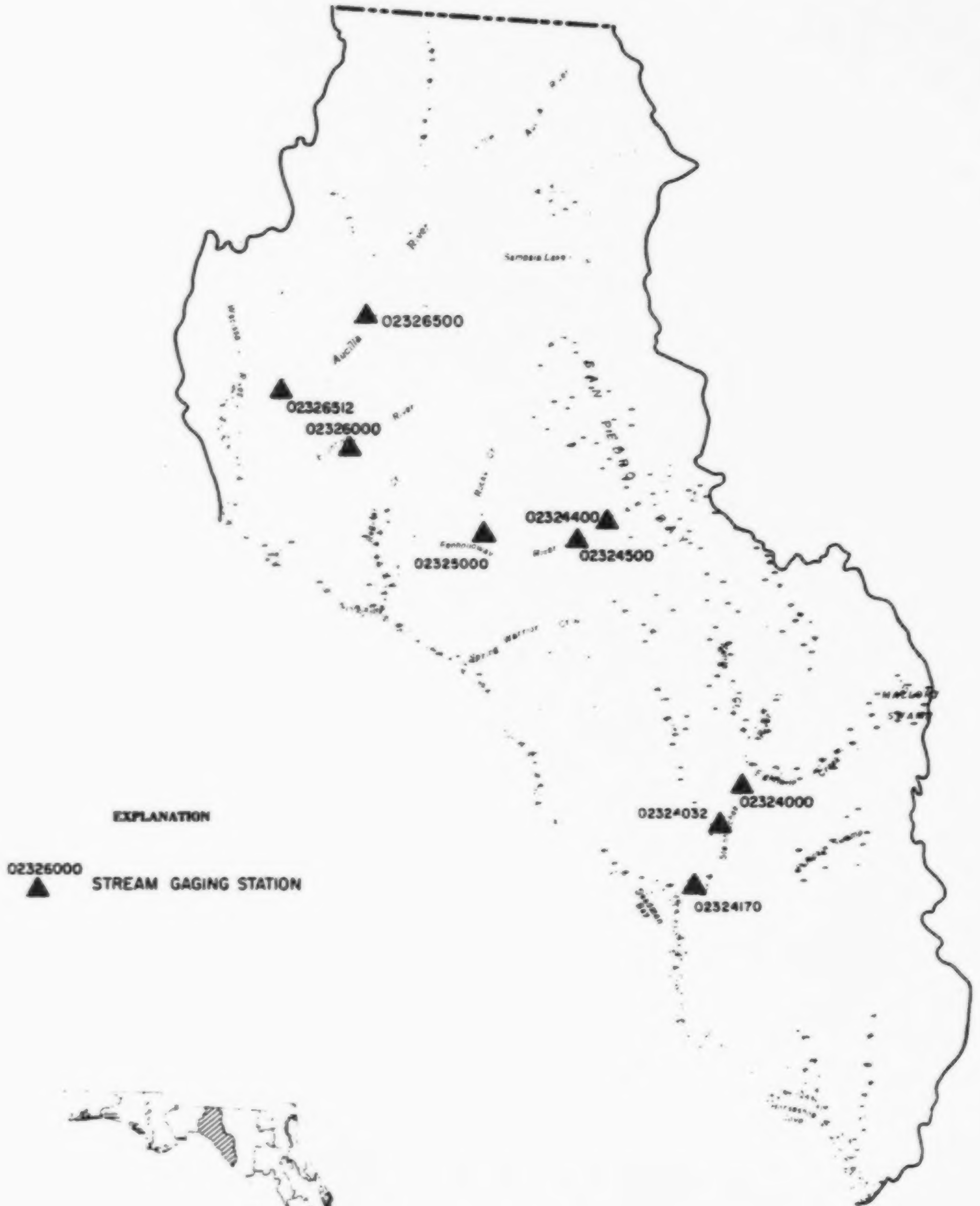
Aucilla River
Sampala Lake
02326500
Aucilla
River
02326512
02326000
02324400
02324500
Fenholloway
River
02325000
Spring Warrior
02324000
02324032
02324170
EXPLANATION
02326000
STREAM GAGING STATION

Figure 18.–Location of stream gaging stations in the Steinhatchee, Fenholloway, Econfina, and Aucilla River basins.

02323990 EIGHTMILE CREEK NEAR CROSS CITY, FL

LOCATION.--Lat 29°48'17", long 83°17'22", in NW1/4 sec.12, T.8 S., R.10 E., Dixie County, Hydrologic Unit 03110102, (Clara quadrangle), at center span on downstream side of bridge at dirt road, 1.7 mi upstream from mouth, 2.9 mi northeast of intersection of U.S. Highway 19 and State Highway 51 at Tennille, and 19.8 mi northwest of Cross City.

DRAINAGE AREA.--84 mi², approximately.

PERIOD OF RECORD.--November 1988 to September 1989 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	COLOR (PLAT-INUM-COBALT UNITS)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV							
15...	1315	16	400	240	--	--	--
JAN							
10...	1140	10	200	250	8	.22	38
MAR							
01...	1250	5.9	80	284	4	.06	100
MAY							
11...	1550	1.4	40	375	--	--	--
JUL							
20...	1040	15	100	293	4	.16	100
SEP							
26...	1500	27	200	248	16	1.2	75

02324000 STEINHATCHEE RIVER NEAR CROSS CITY, FL

LOCATION.--Lat 29°47'11", long 83°19'18", in NE¼ sec.16, T.8 S., R.10 E., Taylor County, Hydrologic Unit 03110102, on right bank 0.7 mi downstream from Atlantic Coast Line Railroad bridge, 0.7 mi south of Clara, 13 mi upstream from mouth, and 16 mi northwest of Cross City.

DRAINAGE AREA.--350 mi², approximately. See REMARKS.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1950 to current year.

REVISED RECORDS.--WSP 1234: 1950. WSP 1724: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.84 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Below about 500 ft³/s, all flow enters sinkhole 0.5 mi downstream from gage. Above about 4,000 ft³/s, discharge measurements are made along U.S. Highways 19, 98, and Alternate 27, measurements include all flow from about 3 mi northwest to 5 mi southwest of main channel, drainage area is increased by about 30 mi².

AVERAGE DISCHARGE.--39 years, 333 ft³/s, 12.92 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft³/s Sept. 13, 14, 1964, gage height, 18.90 ft; minimum, 2.5 ft³/s July 18, 1981; minimum gage height, 2.38 ft July 29-31, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,720 ft³/s, Oct. 6, gage height, 12.07 ft; minimum daily discharge, 9.4 ft³/s, June 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e575	158	126	80	54	48	35	33	12	128	122	129
2	e525	147	116	81	54	71	33	32	11	132	115	145
3	e750	135	109	81	53	103	32	29	10	114	110	200
4	e1360	123	103	78	52	101	31	27	9.5	132	98	323
5	1600	217	98	75	51	90	31	27	9.4	139	86	509
6	1710	244	94	72	50	80	31	27	9.8	111	74	645
7	1630	214	90	71	50	74	30	25	12	89	64	672
8	1420	193	87	69	49	69	29	24	16	80	58	631
9	1220	174	86	68	47	65	29	23	22	75	55	554
10	1060	159	83	67	45	63	29	24	23	64	52	472
11	919	147	94	66	44	60	29	26	21	53	50	403
12	802	137	137	65	43	57	30	23	18	45	46	343
13	697	127	140	64	43	55	29	20	16	40	49	294
14	598	119	137	63	43	53	29	20	15	39	63	255
15	528	113	132	62	42	51	35	19	14	42	55	223
16	473	107	128	61	42	50	42	18	13	41	49	195
17	426	104	122	59	41	47	33	17	14	45	46	173
18	385	103	115	57	40	45	29	16	14	41	41	155
19	350	97	109	56	39	43	29	15	14	49	38	133
20	319	e93	104	56	39	42	34	15	23	71	36	114
21	301	e88	99	59	39	39	68	15	20	70	44	101
22	278	e115	95	71	57	39	62	14	22	93	62	93
23	259	171	91	74	59	48	51	14	20	138	52	138
24	242	172	89	72	54	62	43	15	21	223	45	158
25	216	166	86	68	51	57	39	15	28	208	40	172
26	199	157	84	65	49	52	35	14	56	192	37	197
27	182	148	84	63	48	48	33	13	65	174	84	203
28	166	153	82	61	47	44	31	12	57	154	106	196
29	168	143	79	59	---	41	31	12	85	131	111	188
30	164	135	79	57	---	39	32	12	92	111	113	175
31	169	---	78	56	---	38	---	15	---	107	123	---
TOTAL	19691	4359	3156	2056	1325	1774	1054	611	762.7	3131	2124	8189
MEAN	635	145	102	66.3	47.3	57.2	35.1	19.7	25.4	101	68.5	273
MAX	1710	244	140	81	59	103	68	33	92	223	123	672
MIN	164	88	78	56	39	38	29	12	9.4	39	36	93
AC-FT	39060	8650	6260	4080	2630	3520	2090	1210	1510	6210	4210	16240
CFSM	1.81	.42	.29	.19	.14	.16	.10	.06	.07	.29	.20	.78
IN.	2.09	.46	.34	.22	.14	.19	.11	.06	.08	.33	.23	.87

CAL YR 1988 TOTAL 132853.2 MEAN 363 MAX 5010 MIN 9.4 AC-FT 263500 CFSM 1.04 IN. 14.12
WTR YR 1989 TOTAL 48232.7 MEAN 132 MAX 1710 MIN 9.4 AC-FT 95670 CFSM .38 IN. 5.13

e Estimated

02324000 STEINHATCHEE RIVER NEAR CROSS CITY, FL--Continued

PERIOD OF RECORD.--May 1966 to July 1986, October 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUC-TANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV												
14...	1215	115	--	--	--	320	--	--	--	--	--	--
22...	1400	110	285	7.80	19.0	--	1.5	8.3	89	84	61	160
JAN												
09...	1130	66	--	--	--	140	--	--	--	--	--	--
FEB												
28...	1645	48	--	--	--	60	--	--	--	--	--	--
MAR												
17...	1700	48	447	8.00	21.5	--	1.5	7.2	--	K23	41	260
MAY												
11...	1720	24	--	--	--	30	--	--	--	--	--	--
JUN												
01...	1030	11	570	8.00	27.0	--	.60	5.5	68	67	180	310
JUL												
20...	0950	77	--	--	--	200	--	--	--	--	--	--
AUG												
25...	1020	39	372	8.10	26.5	--	1.5	5.2	64	48	K8	210
SEP												
26...	1315	192	--	--	--	480	--	--	--	--	--	--

DATE	HARD-NESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA-LINITY LAB (MG/L AS CACO3)	ALKA-LINITY WAT.DIS FIELD INC.T. (MG/L CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)
NOV												
14...	--	--	--	--	--	--	--	--	--	--	--	--
22...	22	22	54	5.6	4.1	5	.1	.30	163	136	134	4.2
JAN												
09...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
28...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
17...	20	20	89	8.6	4.9	4	.1	.30	267	238	219	4.6
MAY												
11...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
01...	30	30	110	9.4	4.8	3	.1	.30	330	284	271	5.5
JUL												
20...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
25...	21	21	73	6.6	4.2	4	.1	.20	217	189	178	2.9
SEP												
26...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
NOV											
14...	--	--	--	--	--	--	--	--	245	--	--
22...	19	12	.10	7.2	234	190	.32	69	--	.030	<.10
JAN											
09...	--	--	--	--	--	--	--	--	272	--	--
FEB											
28...	--	--	--	--	--	--	--	--	289	--	--
MAR											
17...	16	10	.20	5.8	295	280	.40	38	--	.010	<.10
MAY											
11...	--	--	--	--	--	--	--	--	363	--	--
JUN											
01...	10	9.2	.20	5.4	331	320	.45	9.8	--	<.010	<.10
JUL											
20...	--	--	--	--	--	--	--	--	267	--	--
AUG											
25...	4.0	9.5	.20	7.3	257	220	.35	27	--	<.010	<.10
SEP											
26...	--	--	--	--	--	--	--	--	218	--	--

02324000 STEINHATCHEE RIVER NEAR CROSS CITY, FL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NH4, WATER, DIS., (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)	ALUMINUM, DISSOLVED (UG/L AS AL)
NOV											
14...	--	--	--	--	--	--	--	--	--	--	--
22...	.060	.050	.06	.10	.94	1.0	.090	.090	.070	.21	120
JAN											
09...	--	--	--	--	--	--	--	--	--	--	--
FEB											
28...	--	--	--	--	--	--	--	--	--	--	--
MAR											
17...	.050	.040	.05	.03	.45	.50	.070	.040	.060	.18	30
MAY											
11...	--	--	--	--	--	--	--	--	--	--	--
JUN											
01...	.020	.030	.04	--	.28	.30	--	.080	.040	.12	10
JUL											
20...	--	--	--	--	--	--	--	--	--	--	--
AUG											
25...	.040	.040	.05	--	.66	.70	.080	.060	.080	.25	70
SEP											
26...	--	--	--	--	--	--	--	--	--	--	--

DATE	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)
NOV											
14...	--	--	--	--	--	--	--	--	--	--	--
22...	<1	9	<.5	1	1	<3	2	860	<5	<4	81
JAN											
09...	--	--	--	--	--	--	--	--	--	--	--
FEB											
28...	--	--	--	--	--	--	--	--	--	--	--
MAR											
17...	<1	15	<.5	<1	<1	<3	1	270	<5	7	53
MAY											
11...	--	--	--	--	--	--	--	--	--	--	--
JUN											
01...	<1	11	<.5	<1	1	<3	1	23	<1	9	98
JUL											
20...	--	--	--	--	--	--	--	--	--	--	--
AUG											
25...	<1	9	<.5	<1	1	<3	<1	550	1	5	51
SEP											
26...	--	--	--	--	--	--	--	--	--	--	--

DATE	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV											
14...	--	--	--	--	--	--	--	--	6	1.9	100
22...	<.1	<10	<1	<1	<1	79	<6	<3	2	.59	50
JAN											
09...	--	--	--	--	--	--	--	--	4	.71	75
FEB											
28...	--	--	--	--	--	--	--	--	4	.52	25
MAR											
17...	<.1	<10	<1	<1	<1	120	<6	<3	17	2.2	41
MAY											
11...	--	--	--	--	--	--	--	--	--	--	--
JUN											
01...	<.1	10	<1	<1	<1	180	<6	8	--	--	--
JUL											
20...	--	--	--	--	--	--	--	--	4	.83	100
AUG											
25...	<.1	<10	1	<1	<1	97	<6	5	4	.42	100
SEP											
26...	--	--	--	--	--	--	--	--	9	4.7	78

02324032 STEINHATCHEE RIVER NEAR STEINHATCHEE, FL

LOCATION.--Lat 29°44'46", long 83°20'31", in NE¼ sec.32, T.8 S., R.10 E., Taylor County, Hydrologic Unit 03110102, on right bank 2.7 mi downstream from U.S. Highway 19 bridge 6.2 mi north of Steinhatchee and 9.8 mi upstream from mouth.

DRAINAGE AREA.--373 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1987 to September 1989 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,610 ft³/s, Sept. 11, 1988, gage height, 17.45 ft; minimum, 39 ft³/s May 28, 1988, minimum gage height, 5.57 ft, June 5, 6, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,130 ft³/s, Oct. 6, gage height, 12.45 ft; minimum, 39 ft³/s, May 28, minimum gage height, 5.57 ft, June 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	791	218	171	126	86	78	85	67	45	156	179	e170
2	713	207	163	127	86	103	84	68	45	161	173	e190
3	1010	195	159	126	84	137	83	67	45	147	167	e280
4	1700	184	154	122	84	139	82	66	42	165	152	e400
5	1940	245	150	117	84	130	83	64	39	181	e140	e600
6	2110	289	145	115	82	120	84	62	42	165	e125	e750
7	2050	262	141	113	82	114	80	59	46	146	e110	e800
8	1810	244	138	111	82	108	78	57	51	140	e100	e750
9	1540	226	136	109	79	105	77	56	57	138	e95	e650
10	1300	213	133	107	74	103	75	56	59	127	e90	e550
11	1130	201	140	106	73	99	76	57	58	112	e90	e490
12	984	191	175	103	72	97	80	54	54	99	e85	e430
13	847	181	180	103	71	95	79	53	53	91	e90	e390
14	725	173	178	103	71	92	79	51	55	94	e105	e320
15	633	168	173	103	71	89	86	49	57	96	e95	e290
16	565	162	171	98	71	89	85	49	59	96	e90	e250
17	516	161	167	95	71	86	79	49	59	98	e85	e220
18	477	157	160	93	70	85	77	50	57	95	e80	e200
19	441	152	155	91	70	82	75	49	54	105	e80	e180
20	401	148	151	90	70	80	79	48	63	134	e75	e160
21	375	143	146	93	71	80	103	49	63	136	e85	e145
22	350	157	141	105	88	80	98	48	67	159	e105	e140
23	327	211	138	111	90	90	91	48	66	190	e90	e185
24	305	215	136	109	84	105	85	49	68	265	e85	e205
25	281	211	133	105	80	102	81	48	73	264	e80	e220
26	261	202	130	100	79	97	79	48	82	251	e75	e240
27	244	191	130	98	79	93	78	46	90	235	e120	e250
28	227	194	128	95	77	90	75	42	87	217	e140	242
29	226	186	127	91	---	89	74	40	113	196	e145	236
30	223	179	125	89	---	89	71	42	128	177	e150	224
31	229	---	125	88	---	89	---	45	---	165	e155	---
TOTAL	24731	5866	4599	3242	2181	3035	2441	1636	1877	4801	3436	10157
MEAN	798	196	148	105	77.9	97.9	81.4	52.8	62.6	155	111	339
MAX	2110	289	180	127	90	139	103	68	128	265	179	800
MIN	223	143	125	88	70	78	71	40	39	91	75	140
AC-FT	49050	11640	9120	6430	4330	6020	4840	3250	3720	9520	6820	20150
CFSM	2.14	.52	.40	.28	.21	.26	.22	.14	.17	.42	.30	.91
IN.	2.47	.59	.46	.32	.22	.30	.24	.16	.19	.48	.34	1.01

CAL YR 1988 TOTAL 163905 MEAN 448 MAX 4520 MIN 43 AC-FT 325100 CFSM 1.20 IN. 16.35
WTR YR 1989 TOTAL 68002 MEAN 186 MAX 2110 MIN 39 AC-FT 134900 CFSM .50 IN. 6.78

e Estimated

02324032 STEINHATCHEE RIVER NEAR STEINHATCHEE, FL--Continued

PERIOD OF RECORD.--October 1987 to September 1989 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	COLOR (PLAT-INUM-COBALT UNITS)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV							
15...	1145	172	200	263	4	1.9	75
JAN							
10...	1250	109	100	286	3	.88	33
MAR							
01...	1145	72	40	299	2	.39	50
MAY							
11...	1040	56	30	336	--	--	--
JUL							
20...	1145	140	120	297	2	.76	100
SEP							
27...	1315	257	320	231	5	3.5	60

02324130 ROCKY CREEK NEAR STEINHATCHEE, FL

LOCATION.--Lat 29°44'43", long 83°21'17", in NE¼ sec.31, T.8 S., R.10 E., Taylor County, Hydrologic Unit 03110102, at bridge on State Highway 51, 0.6 mi upstream from mouth, and 6.0 mi north of Steinhatchee.

DRAINAGE AREA.--65 mi^2, approximately, including that of California Creek.

PERIOD OF RECORD.--October 1987 to September 1989 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	COLOR (PLAT-INUM-COBALT UNITS)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV							
15...	1015	1.7	80	243	6	.03	67
JAN							
09...	1245	.30	40	271	25	.02	4
MAR							
01...	1010	.08	20	280	34	.00	50
MAY							
11...	1130	.02	20	297	--	--	--
JUL							
20...	1220	.63	50	273	2	.00	100
SEP							
27...	1115	2.9	160	225	5	.04	40

02324155 BOGGY CREEK NEAR STEINHATCHEE, FL

LOCATION.--Lat 29°43'59", long 83°21'33", in NE1/4 sec.6, T.9 S., R.10 E., Taylor County, Hydrologic Unit 03110102, at bridge on State Highway 51, 0.7 mi upstream from mouth, and 5.1 mi north of Steinhatchee.

DRAINAGE AREA.--34 mi², approximately, including that of Bevins Creek.

PERIOD OF RECORD.--October 1987 to September 1989 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	COLOR (PLAT-INUM-COBALT UNITS)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV							
15...	1000	10	120	217	4	.11	75
JAN							
10...	1350	2.5	70	241	4	.03	25
MAR							
01...	1005	.26	40	234	5	.00	60
MAY							
11...	1200	<.01	20	276	--	--	--
JUL							
20...	1250	3.0	100	247	3	.02	100
SEP							
27...	1100	16	200	230	9	.40	22

02324166 SAND HILL CREEK NEAR STEINHATCHEE, FL

LOCATION.--Lat 29°40'36", long 83°20'27", in SE¼ sec.20, T.9 S., R.10 E., Dixie County, Hydrologic Unit 03110102, at bridge on State Highway 358, 1.3 mi upstream from mouth, and 2.9 mi east of Steinhatchee.

DRAINAGE AREA.--69 mi², approximately.

PERIOD OF RECORD.--October 1987 to September 1989 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	COLOR (PLAT-INUM-COBALT UNITS)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV							
15...	1430	11	40	340	6	.18	67
JAN							
10...	0845	8.3	40	343	17	.38	82
MAR							
01...	1405	5.0	40	328	4	.05	75
MAY							
11...	1430	.00	--	--	--	--	--
JUL							
20...	1450	60	100	244	2	.32	100
SEP							
26...	1730	132	100	190	4	1.4	50

02324170 STEINHATCHEE RIVER AT STEINHATCHEE, FL

LOCATION.--Lat 29°40'05", long 83°22'39", in SW1/4 sec.25, T.9 S., R.9 E., Taylor County, Hydrologic Unit 03110102, near right bank at abandoned State Highway 358 bridge abutment, 800 ft above State Highway 358 bridge, 2.2 mi upstream from mouth, at Steinhatchee.

DRAINAGE AREA.--582 mi^2, approximately.

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is 13.84 ft below National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Flow affected by tide.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge 7,500 ft^3/s, Sept. 10, 1988; maximum gage height 18.33 ft, June 16, 1989; maximum daily reverse flow 743 ft^3 /s, Aug. 31, 1989; minimum gage height 9.86 ft, Jan. 22, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,220 ft^3/s Oct. 7; maximum gage height, 18.33 ft June 16; maximum daily reverse flow, 743 ft^3/s Aug. 31; minimum gage height, 9.86 ft Jan. 22.

REVISIONS.--Revised figures of daily discharge and gage datum for water year 1988, supersede those published in report of 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	356	1.5	451	559	96	-71	-104	113	223	415	-307
2	1210	366	-2.7	347	-26	150	-232	69	447	302	391	329
3	1920	314	-4.7	370	84	214	53	159	471	263	370	40
4	2710	313	123	131	175	241	180	254	460	280	151	59
5	2870	675	146	-289	418	324	178	135	478	420	-247	742
6	3040	710	156	-131	497	539	264	121	282	334	134	1250
7	3220	420	255	107	688	392	50	196	204	303	64	1480
8	2880	359	322	106	667	366	33	-602	93	234	296	1840
9	2530	356	448	31	278	287	339	50	-166	200	53	1370
10	2130	330	379	-2.6	2.2	299	137	-79	-98	81	83	149
11	1900	507	424	118	-232	132	256	345	-162	104	67	-384
12	1630	324	383	36	-197	144	46	481	-175	174	96	-333
13	1320	362	365	-166	-129	150	395	157	-161	245	223	-463
14	1070	318	221	-325	-39	126	339	164	-43	314	228	846
15	950	300	119	-509	50	-18	171	255	18	274	208	819
16	891	298	219	-240	121	-47	-58	84	266	300	415	427
17	658	329	148	-455	93	-56	-141	116	106	391	405	962
18	574	322	104	72	32	230	33	9.1	202	333	379	-251
19	480	121	84	25	-60	266	144	-46	131	491	407	-210
20	450	404	161	192	193	342	399	-14	2.4	530	309	785
21	680	499	382	-159	327	304	189	26	109	555	315	725
22	910	380	371	-276	389	298	179	-103	160	427	275	844
23	981	460	335	911	220	12	379	79	186	447	104	897
24	993	184	454	1070	232	195	455	110	66	416	65	881
25	819	242	478	917	8.1	143	411	194	89	378	-178	918
26	670	43	318	705	-55	223	518	277	1.1	109	441	988
27	622	400	219	420	65	111	606	380	-7.0	151	1130	737
28	596	538	408	558	223	47	287	121	56	207	1290	505
29	560	275	332	774	---	40	-656	-18	111	298	153	302
30	390	-24	249	695	---	120	-223	180	115	317	-675	461
31	319	---	349	600	---	134	---	36	---	423	-743	---
TOTAL	41113	10481	7946.1	6083.4	4583.3	5804	4660	3032.1	3354.5	9624	6624	16408
MEAN	1326	349	256	196	164	187	155	97.8	112	310	214	547
MAX	3220	710	478	1070	688	539	606	481	478	555	1290	1840
MIN	319	-24	-4.7	-509	-232	-56	-656	-602	-175	81	-743	-463
AC-FT	81550	20790	15760	12070	9090	11510	9240	6010	6650	19090	13140	32550
CFSM	2.28	.60	.44	.34	.28	.32	.27	.17	.19	.53	.37	.94
IN.	2.63	.67	.51	.39	.29	.37	.30	.19	.21	.62	.42	1.05

WTR YR 1989 TOTAL 119713.4 MEAN 328 MAX 3220 MIN -743 AC-FT 237500 CFSM .56 IN. 7.65

PERIOD OF RECORD.--October 1987 to September 1989 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	COLOR (PLAT-INUM-COBALT UNITS)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV							
14...	1430	-82	160	7470	5	-1.1	60
JAN							
10...	1530	-1370	60	13300	4	-15	25
MAR							
01...	1445	189	20	26300	6	3.1	33
MAY							
11...	1240	150	20	12400	5	2.0	60
JUL							
20...	1330	-17	70	11600	9	-.41	89
SEP							
27...	0915	681	160	5200	5	9.2	60

02324170 STEINHATCHEE RIVER AT STEINHATCHEE, FL

LOCATION.--Lat 29°40'05", long 83°22'39", in SW1/4 sec.25, T.9 S., R.9 E., Taylor County, Hydrologic Unit 03110102, near right bank at abandoned State Highway 358 bridge abutment, 800 ft above State Highway 358 bridge, 2.2 mi upstream from mouth, at Steinhatchee.

DRAINAGE AREA.--582 mi², approximately.

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is 13.84 ft below National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Flow affected by tide.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 7,500 ft³/s Sept. 10; maximum gage height, 18.08 ft Sept. 5; maximum daily reverse flow, 209 ft³/s July 7; minimum gage height, 10.07 ft Feb. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	e300	923	307	145	-30	528	146	1030
2	---	---	---	---	e300	715	342	-107	112	631	241	2380
3	---	---	---	---	e300	566	194	-141	143	372	178	2630
4	---	---	---	---	360	906	205	-42	-82	246	111	3040
5	---	---	---	---	667	1620	401	345	-169	151	-32	5170
6	---	---	---	---	417	1870	276	183	39	64	-118	6250
7	---	---	---	---	248	1960	264	-83	92	-209	-47	4830
8	---	---	---	---	250	2010	250	-37	124	-143	-9.2	5870
9	---	---	---	---	-32	2100	-112	-159	197	-147	-25	7370
10	---	---	---	---	-7.5	2510	57	-30	330	-14	150	e7500
11	---	---	---	---	15	2300	92	117	127	79	241	e7000
12	---	---	---	---	144	2220	431	186	91	-6.5	328	e6500
13	---	---	---	---	39	2150	217	81	-66	129	289	e6000
14	---	---	---	---	-180	2020	187	139	-113	90	319	e5500
15	---	---	---	---	331	1660	218	73	7.5	211	433	e5000
16	---	---	---	---	380	1320	319	108	61	145	569	e4500
17	---	---	---	---	299	1190	243	147	81	168	791	e4000
18	---	---	---	---	157	1030	110	1.9	67	65	734	e3500
19	---	---	---	---	347	1520	222	11	37	204	587	e3000
20	---	---	---	---	1200	1250	225	136	79	13	470	e2800
21	---	---	---	---	1800	1060	145	86	55	-34	450	e2600
22	---	---	---	---	1710	1000	163	90	170	84	371	e2400
23	---	---	---	---	1750	801	74	258	213	138	219	e2200
24	---	---	---	---	1690	722	379	140	241	233	385	e2000
25	---	---	---	---	1660	683	466	535	182	262	730	1870
26	---	---	---	---	1440	631	645	148	172	176	916	1740
27	---	---	---	---	1160	786	644	126	208	147	862	1570
28	---	---	---	---	1040	516	417	139	327	148	754	1410
29	---	---	---	---	953	383	139	334	421	272	854	1220
30	---	---	---	---	---	442	96	382	384	311	774	1270
31	---	---	---	---	---	356	---	320	---	267	592	---
TOTAL	---	---	---	---	18737.5	39220	7616	3631.9	3500.5	4580.5	12262.8	112150
MEAN	---	---	---	---	646	1265	254	117	117	148	396	3738
MAX	---	---	---	---	1800	2510	645	535	421	631	916	7500
MIN	---	---	---	---	-180	356	-112	-159	-169	-209	-118	1030
AC-FT	---	---	---	---	37170	77790	15110	7200	6940	9090	24320	222400
CFSM	---	---	---	---	1.11	2.17	.44	.20	.20	.25	.68	6.42
IN.	---	---	---	---	1.20	2.51	.49	.23	.22	.29	.78	7.17

e Estimated

02324170 STEINHATCHEE RIVER AT STEINHATCHEE, FL--Continued

PERIOD OF RECORD.--October 1987 to September 1989 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	COLOR (PLAT-INUM-COBALT UNITS)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT							
16...	0900	-766	10	26600	3	-6.2	33
DEC							
16...	1330	-1130	15	9170	4	-12	50
FEB							
09...	1445	-1210	70	4700	89	-291	98
MAR							
29...	1500	1400	280	4050	15	57	33
MAY							
24...	0900	-642	40	5920	3	-5.2	100
JUL							
21...	0930	750	30	7950	3	6.1	67
SEP							
09...	1200	7780	240	127	7	147	71
23...	0800	629	480	219	6	10	100

02324400 FENHOLLOWAY RIVER NEAR FOLEY, FL

LOCATION.--Lat 30°05'53", long 83°28'19", in NE¹/₄ sec.36, T.4 S., R.8 E., Taylor County, Hydrologic Unit 03110102, near left bank at downstream side of bridge on U.S. Highway 27, 1.8 mi upstream from small tributary, 4 mi northeast of Foley, and 32 mi upstream from mouth.

DRAINAGE AREA.--60 mi² approximately.

PERIOD OF RECORD.--February to August 1955 (discharge measurements only); September 1955 to current year.

REVISED RECORDS.--WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 53.59 ft above National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark).

REMARKS.--No estimated daily discharges. Records fair.

AVERAGE DISCHARGE.--34 years, 54.8 ft³/s, 39,700 acre ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,210 ft³/s, Sept. 12, 1964, gage height, 15.21 ft; minimum, 0.49 ft³/s, June 15, 1985; minimum gage height, 0.50 ft, June 29.30, July 1, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum(*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 3	1900	*123	*5.71				

Minimum discharge, .50 ft³/s, May 7-10, 17-21, June 4-7, gage height, 0.63 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	6.7	4.3	3.3	1.3	1.1	1.0	.55	.54	46	13	7.0
2	70	6.3	4.1	3.1	1.3	1.1	.95	.56	.54	48	20	11
3	90	5.8	3.9	3.0	1.3	1.5	.92	.54	.54	45	15	15
4	110	5.4	3.8	2.8	1.3	1.9	.88	.54	.54	40	12	9.0
5	106	6.6	3.7	2.5	1.3	1.7	.88	.54	.51	35	9.6	6.9
6	101	7.9	3.6	2.3	1.3	1.6	.87	.54	.52	31	7.8	5.6
7	92	8.0	3.5	2.2	1.3	1.5	.84	.52	.53	26	7.0	4.6
8	81	7.2	3.5	2.1	1.3	1.3	.85	.52	.74	23	6.6	4.3
9	71	6.6	3.5	2.1	1.3	1.3	.86	.53	1.1	22	5.6	3.8
10	63	6.0	3.4	2.0	1.2	1.3	.81	.58	3.2	19	4.9	3.2
11	57	5.6	3.6	2.0	1.2	1.3	.81	.60	7.3	16	4.4	2.7
12	51	5.2	5.1	1.9	1.2	1.2	.81	.54	7.8	13	3.9	2.3
13	45	4.8	6.3	1.9	1.2	1.2	.80	.54	6.3	11	3.7	2.0
14	40	4.6	6.1	1.8	1.2	1.1	.76	.54	4.9	12	5.3	1.9
15	36	4.3	5.7	1.8	1.2	1.1	.83	.54	3.9	14	7.2	1.7
16	33	4.0	5.4	1.8	1.2	1.1	.88	.54	4.9	15	7.3	1.5
17	30	3.9	5.2	1.6	1.2	1.0	.82	.54	28	14	6.5	1.4
18	27	3.7	5.0	1.4	1.2	1.0	.79	51	23	13	5.4	1.3
19	24	3.5	4.7	1.3	1.2	.97	.76	.52	26	13	4.4	1.3
20	22	3.6	4.6	1.3	1.2	.95	.75	.52	35	15	3.9	1.3
21	20	3.7	4.4	1.3	1.2	.92	.74	.55	44	16	5.1	1.2
22	18	4.0	4.4	1.4	1.2	.92	.72	.57	51	19	5.8	1.1
23	16	5.4	4.3	1.5	1.3	1.1	.72	.55	47	24	5.7	1.3
24	14	5.9	4.1	1.6	1.3	1.4	.69	.71	42	26	5.2	1.3
25	12	5.6	3.9	1.4	1.2	1.4	.68	.76	37	26	4.7	1.3
26	11	5.4	3.7	1.4	1.2	1.3	.67	.64	32	24	4.1	1.6
27	9.6	5.2	3.2	1.4	1.2	1.3	.65	.62	27	21	3.8	1.7
28	8.7	5.0	2.9	1.3	1.2	1.2	.64	.60	24	18	5.2	1.6
29	8.0	4.8	3.1	1.3	---	1.1	.60	.57	23	16	4.8	1.5
30	7.5	4.7	3.3	1.4	---	1.0	.58	.56	25	14	5.5	1.4
31	7.1	---	3.3	1.3	---	1.0	---	.56	---	13	8.4	---
TOTAL	1357.9	159.4	129.6	57.5	34.7	37.86	23.56	17.50	507.86	688	211.8	101.8
MEAN	43.8	5.31	4.18	1.85	1.24	1.22	.79	.56	16.9	22.2	6.83	3.39
MAX	110	8.0	6.3	3.3	1.3	1.9	1.0	.76	51	48	20	15
MIN	7.1	3.5	2.9	1.3	1.2	.92	.58	.51	.51	11	3.7	1.1
CFSM	.73	.09	.07	.03	.02	.02	.01	.009	.28	.37	.11	.06
IN.	.84	.10	.08	.04	.02	.02	.01	.01	.31	.43	.13	.06
AC-FT	2690	316	257	114	69	75	47	35	1010	1360	420	202

CAL YR 1988 TOTAL 11698.97 MEAN 32.0 MAX 228 MIN .78 CFSM .53 IN 7.25 AC-FT 23200
WTR YR 1989 TOTAL 3327.48 MEAN 9.12 MAX 110 MIN .51 CFSM .15 IN 2.06 AC-FT 6600

02324500 FENHOLLOWAY RIVER AT FOLEY, FL

LOCATION.--Lat 30°03'55", long 83°34'29", in NE$\frac{1}{4}$ sec.7, T.5 S., R.8 E., Taylor County, Hydrologic Unit 03110102, near center of span on downstream side of bridge of U.S. Highway 19, 1.6 mi west of Foley, 2.4 mi downstream from clarifier flume of the Buckeye Cellulose Corporation plant, 11.4 mi upstream from Spring Creek, and 24.4 mi upstream from mouth.

DRAINAGE AREA.--120 mi^2, approximately.

PERIOD OF RECORD.--September 1946 to current year.

REVISED RECORDS.--WSP 1905: Drainage area. WRD FL-77-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 24.85 ft above National Geodetic Vertical Datum of 1929. Prior to June 24, 1947, nonrecording gage and June 24, 1947 to Feb. 4, 1971, water-stage recorder, at site about 1.6 mi upstream at datum 4.51 ft higher.

REMARKS.--Records good. Since Feb. 1, 1954, large ground-water withdrawals by cellulose plant upstream. Records include return flow from plant.

AVERAGE DISCHARGE.--43 years; 132 ft^3/s, 95,634 acre ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,810 ft^3/s, Sept. 12, 1964, gage height, 18.52 ft; no flow Jan. 2-4, 1971, caused by diversion of flow into lagoon; minimum gage height, 6.40 ft, Jan. 8, 9, 1950, at former site and datum. Maximum discharge, 1,120 ft^3/s Apr. 5, 1973, gage height 15.03; minimum discharge, 0.80 ft^3/s, Aug. 16, 1972; minimum gage height, 8.70 ft, May 13, 14, 15, 1989, present site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 200 ft^3/s, Oct. 4, 5, gage height, 12.06 ft; minimum daily 5.4 ft^3/s, May 14, minimum gage height, 8.70 ft, May 13, 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	176	76	68	73	67	70	61	47	68	113	82	70
2	165	73	70	73	60	73	63	59	66	117	80	72
3	171	76	73	68	63	71	63	53	64	120	80	87
4	196	75	72	68	67	69	63	63	64	114	77	73
5	199	83	70	69	65	70	63	63	65	111	75	72
6	191	79	71	71	64	65	59	66	71	105	71	67
7	182	81	63	70	66	64	63	62	72	96	70	65
8	173	78	63	70	65	64	62	63	81	100	70	64
9	163	76	67	66	66	62	63	58	85	106	65	65
10	150	77	67	63	64	61	62	53	83	98	70	65
11	142	75	73	67	66	59	61	36	73	90	73	64
12	135	75	66	69	67	66	61	12	71	85	72	64
13	124	76	64	68	67	65	59	6.6	70	81	78	64
14	119	75	68	68	66	65	62	5.4	65	78	75	62
15	114	74	68	67	69	65	47	6.2	66	79	71	62
16	102	74	76	67	74	64	64	27	86	90	74	61
17	98	72	73	64	67	66	64	33	88	95	73	61
18	83	77	74	66	64	68	63	48	70	90	75	61
19	94	77	76	66	64	67	63	54	77	97	75	56
20	89	78	76	62	66	66	63	57	73	94	69	61
21	84	78	75	65	75	65	60	66	79	96	69	62
22	63	80	75	71	74	68	59	68	75	99	71	64
23	80	79	75	e69	70	73	58	68	91	103	69	64
24	79	75	73	e67	75	65	56	67	116	112	71	64
25	76	75	74	e66	73	66	59	65	106	113	73	68
26	78	74	73	e60	70	65	57	67	108	107	71	68
27	74	75	74	64	69	65	53	64	100	101	73	60
28	76	74	70	67	66	64	50	63	90	94	74	60
29	77	71	70	67	---	63	53	65	92	88	71	63
30	76	71	67	66	---	67	54	72	94	84	72	59
31	75	---	68	64	---	63	---	75	---	82	72	---
TOTAL	3724	2279	2192	2081	1889	2044	1788	1612.2	2409	3038	2261	1948
MEAN	120	76.0	70.7	67.1	67.5	65.9	59.6	52.0	80.3	98.0	72.9	64.9
MAX	199	83	76	73	75	73	64	75	116	120	82	87
MIN	74	71	63	60	60	59	47	5.4	64	78	65	56
AC-FT	7390	4520	4350	4130	3750	4050	3550	3200	4780	6030	4480	3860
CFSM	1.00	.63	.59	.56	.56	.55	.50	.43	.67	.82	.61	.54
IN.	1.15	.71	.68	.65	.59	.63	.55	.50	.75	.94	.70	.60

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CAL YR 1988   TOTAL   39457  MEAN 108    MAX 341  MIN 60    AC-FT 78260  CFSM .90  IN. 12.23
WTR YR 1989   TOTAL 27265.2  MEAN  74.7  MAX 199  MIN  5.4  AC-FT 54080  CFSM .62  IN.  8.45
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e Estimated

02325000 FENHOLLOWAY RIVER NEAR PERRY, FL

LOCATION.--Lat 30°04'16", long 83°39'45", in SE¼ sec.6, T.5 S., R.7 E., Taylor County, Hydrologic Unit 03110102, near right bank on downstream side of bridge on State Highway 356, 1.0 mi southwest of the community of Hampton Springs, 5.5 mi southwest of Perry and 14 mi upstream from mouth.

DRAINAGE AREA.--160 mi², approximately.

PERIOD OF RECORD.--August 1946 to June 1952 (discharge measurements only); August 1952 to October 1954 (gage heights and discharge measurements only); November 1964 to July 1977 (crest-stage and periodic discharge measurements only); August 1977 to September 1984. May 1986 to current year.

REVISED RECORDS.--WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. August 13, 1946 to October 1954, nonrecording gage at same site at datum 5.00 ft higher. November 1964 to July 1977, crest-stage gage at same site and datum.

REMARKS.--No estimated daily discharges. Records fair. Natural flow of stream affected by large ground-water withdrawals by cellulose plant about 10 mi upstream. Flow affected by backwater from Spring Creek at times.

AVERAGE DISCHARGE.--10 years (water years 1978-84, 1987-89), 217 ft³/s, 18.42 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum measured discharge, 1,360 ft³/s, Sept. 18, 1964, maximum gage height, 24.39 ft, Sept. 13, 1964 from floodmarks (backwater from Spring Creek); minimum measured, 37 ft³/s, Feb. 16, 1951; minimum gage height, 9.86 ft, May 26, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 251 ft³/s, Oct. 5; gage height, 14.48 ft, March 10; minimum daily discharge, 59 ft³/s, May 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	236	140	129	125	114	112	107	95	103	152	129	117
2	228	139	126	127	116	115	108	97	103	155	127	117
3	233	138	130	125	110	118	108	101	102	158	127	125
4	245	139	129	122	115	115	109	96	100	157	124	128
5	251	143	127	123	115	115	107	103	101	155	122	127
6	249	143	128	124	114	113	107	103	102	152	120	126
7	239	140	124	123	113	113	106	103	105	148	118	124
8	229	140	122	123	115	111	106	100	111	144	117	122
9	221	138	123	123	114	111	107	102	116	149	116	121
10	212	137	124	119	113	110	107	95	130	146	114	121
11	203	137	126	120	113	108	106	98	129	140	117	120
12	197	136	130	122	114	110	106	73	132	135	117	119
13	191	136	124	122	114	112	105	63	131	130	117	118
14	184	136	124	122	114	111	104	60	128	129	122	118
15	180	135	125	121	114	111	102	59	125	127	118	117
16	176	133	126	120	116	111	104	64	129	131	117	115
17	166	134	128	119	115	110	106	78	146	134	117	115
18	161	133	127	118	111	111	105	86	135	133	116	115
19	159	136	128	119	112	112	105	92	132	135	117	113
20	159	135	129	117	112	110	104	93	135	141	117	111
21	155	135	128	116	114	111	105	100	133	140	113	114
22	153	136	127	119	120	110	102	102	139	144	114	114
23	150	140	128	119	115	115	101	103	137	148	114	115
24	148	136	126	118	116	113	101	104	155	152	113	113
25	146	135	125	118	116	111	100	101	154	154	114	116
26	145	133	126	117	115	111	101	101	154	153	115	118
27	144	133	126	108	115	110	99	101	150	148	115	116
28	142	133	126	116	114	110	97	99	144	142	118	111
29	142	131	124	117	---	110	96	99	142	138	116	113
30	143	130	123	116	---	109	100	101	146	133	116	112
31	142	---	123	115	---	111	---	110	---	130	118	---
TOTAL	5729	4090	3911	3713	3199	3460	3121	2882	3849	4433	3655	3531
MEAN	185	136	126	120	114	112	104	93.0	128	143	118	118
MAX	251	143	130	127	120	118	109	110	155	158	129	128
MIN	142	130	122	108	110	108	96	59	100	127	113	111
CFSM	1.16	.85	.79	.75	.71	.70	.65	.58	.80	.89	.74	.74
IN.	1.33	.95	.91	.86	.74	.80	.73	.67	.89	1.03	.85	.82
AC-FT	11360	8110	7760	7360	6350	6860	6190	5720	7630	8790	7250	7000

CAL YR 1988 TOTAL 62811 MEAN 172 MAX 441 MIN 95 CFSM 1.08 IN 14.60 AC-FT 124600
WTR YR 1989 TOTAL 45573 MEAN 125 MAX 251 MIN 59 CFSM .78 IN 10.60 AC-FT 90390

02326000 ECONFINA RIVER NEAR PERRY, FL.

LOCATION.--Lat 30°10'14", long 83°49'26", in NE¹/4 sec.4, T.4 S., R.5 E., Taylor County, Hydrologic Unit 03110102, on downstream side of concrete bridge, 3.0 mi downstream from Natural Well Branch, 14 mi upstream from mouth, and 14.7 mi northwest of Perry.

DRAINAGE AREA.--198 mi^2.

PERIOD OF RECORD.--February 1950 to current year.

REVISED RECORDS.--WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 14.35 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--39 years, 142 ft^3/s, 9.74 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,540 ft^3/s, Sept. 17, 1957, gage height, 12.78 ft; minimum, 2.3 ft^3/s July 8, 1955; minimum gage height, 1.87 ft Mar. 2,3, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 406 ft^3/s, July 26, 27, gage height, 8.09 ft; minimum, 7.8 ft^3/s, June 5, 6; gage height, 1.88 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	34	34	29	23	28	38	14	9.1	176	284	50
2	165	34	32	29	23	27	38	14	8.8	190	300	52
3	164	33	31	29	23	28	37	15	8.6	185	291	49
4	190	35	30	29	23	32	35	15	8.4	176	260	49
5	188	39	29	29	23	36	33	15	8.0	166	226	48
6	178	43	29	28	23	36	31	15	8.6	164	191	45
7	169	45	28	28	23	35	30	14	8.9	161	161	42
8	159	46	28	27	23	34	29	14	9.5	153	138	39
9	147	44	27	27	23	33	27	14	13	146	118	37
10	134	41	27	27	23	32	26	15	29	147	103	34
11	122	40	28	27	23	31	26	16	68	141	93	32
12	111	38	29	27	22	30	25	16	152	130	85	30
13	101	37	32	26	22	29	24	16	234	118	79	28
14	91	35	34	26	22	28	24	16	245	107	76	27
15	83	34	35	26	21	27	24	15	219	113	75	26
16	75	34	34	26	21	26	23	15	196	150	72	25
17	69	33	34	26	21	26	24	14	184	195	70	24
18	63	32	33	25	21	25	25	14	161	231	70	24
19	58	31	33	25	20	24	23	13	140	244	68	23
20	54	31	32	25	20	24	21	13	125	265	64	22
21	51	30	31	25	22	24	19	13	119	269	59	22
22	49	30	31	25	25	24	18	12	124	264	58	21
23	47	31	31	25	31	28	16	12	128	280	59	21
24	44	32	30	25	36	36	15	14	e131	335	58	21
25	42	32	30	25	35	43	14	13	e135	383	54	22
26	40	32	29	25	32	46	14	13	e145	404	49	24
27	38	32	29	25	30	43	14	12	157	402	46	24
28	37	32	29	24	29	41	13	11	158	386	43	24
29	35	33	29	24	---	38	13	10	150	359	42	25
30	35	34	29	24	---	37	13	9.9	144	326	42	24
31	34	---	29	24	---	38	---	9.4	---	291	41	---
TOTAL	2957	1057	946	812	683	989	712	422.3	3226.9	7057	3375	934
MEAN	95.4	35.2	30.5	26.2	24.4	31.9	23.7	13.6	108	228	109	31.1
MAX	190	46	35	29	36	46	38	16	245	404	300	52
MIN	34	30	27	24	20	24	13	9.4	8.0	107	41	21
AC-FT	5870	2100	1880	1610	1350	1960	1410	838	6400	14000	6690	1850
CFSM	.48	.18	.15	.13	.12	.16	.12	.07	.54	1.15	.55	.16
IN.	.56	.20	.18	.15	.13	.19	.13	.08	.61	1.33	.63	.18

CAL YR 1988 TOTAL 36280 MEAN 99.1 MAX 552 MIN 13 AC-FT 71960 CFSM .50 IN. 6.82
WTR YR 1989 TOTAL 23171.2 MEAN 63.5 MAX 404 MIN 8.0 AC-FT 45960 CFSM .32 IN. 4.35

e Estimated

02326500 AUCILLA RIVER AT LAMONT, FL

LOCATION.--Lat 30°22'11", long 83°48'25", in NE¼ sec.27, T.1 S., R.5 E., Madison County, Hydrologic Unit 03110103, near left bank on downstream side of bridge on U.S. Highway 19, 0.6 mi southeast of Lamont, and 34 mi upstream from mouth.

DRAINAGE AREA.--747 mi².

PERIOD OF RECORD.--February 1950 to September 1979; November 1983 to current year (gage heights and peak discharge only).

REVISED RECORDS.--WSP 1204, 1905: Drainage area. WSP 1504: 1953.

GAGE.--Water-stage recorder. Datum of gage is 42.90 ft above National Geodetic Vertical Datum of 1929, unadjusted.

REMARKS.--Pumpage above and below station for irrigation during dry seasons. Since Aug. 27, 1963, low-head rock and concrete dam 0.6 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s, Apr. 8, 1973, gage height, 16.57 ft, river dry at gage June 13-16, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 954 ft³/s, June 22, gage height, 9.53 ft; minimum gage height 4.02 ft, June 6.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.24	5.30	5.49	5.68	5.11	5.86	6.45	4.96	4.39	8.12	8.92	5.90
2	7.08	5.27	5.51	5.98	5.09	5.90	6.37	5.08	4.30	8.23	8.84	5.93
3	7.13	5.23	5.53	5.86	5.07	6.16	6.31	5.02	4.20	8.27	e8.80	5.84
4	7.35	5.26	5.55	5.76	5.05	6.24	6.24	4.90	4.12	8.11	e8.60	5.76
5	7.32	5.51	5.56	5.72	5.04	6.19	6.18	4.82	4.05	8.01	e8.30	5.69
6	7.27	5.67	5.55	5.69	5.03	6.20	6.12	4.74	4.63	8.06	e8.00	5.61
7	7.18	5.62	5.54	5.65	5.02	6.18	6.04	4.52	5.53	8.33	e7.75	5.53
8	7.07	5.60	5.52	5.62	5.03	6.15	5.94	4.44	5.49	8.40	e7.60	5.47
9	6.96	5.61	5.50	5.58	5.00	6.12	5.87	4.38	6.38	8.39	e7.35	5.38
10	6.86	5.60	5.47	5.55	4.96	6.10	5.80	4.43	7.44	8.25	7.26	5.29
11	6.76	5.57	5.52	5.51	4.93	6.07	5.79	4.73	8.49	8.08	7.10	5.20
12	6.65	5.53	5.73	5.48	4.91	6.03	5.75	4.62	9.15	7.83	6.93	5.09
13	6.52	5.50	5.75	5.46	4.90	6.00	5.69	4.48	9.31	7.54	6.85	5.00
14	6.42	5.48	5.74	5.44	4.89	5.97	5.64	4.39	9.26	7.46	6.90	4.92
15	6.33	5.45	5.77	5.41	4.89	5.94	5.69	4.33	9.14	7.76	6.76	4.84
16	6.25	5.42	5.80	5.38	4.88	5.90	5.76	4.28	9.05	7.68	6.64	4.76
17	6.17	5.40	5.82	5.34	4.86	5.86	5.70	4.23	9.06	7.34	6.53	4.73
18	6.08	5.37	5.82	5.31	4.84	5.81	5.66	4.18	9.00	7.28	6.47	4.66
19	6.00	5.34	5.82	5.29	4.82	5.76	5.64	4.15	8.91	7.54	6.42	4.59
20	5.92	5.32	5.82	5.26	4.81	5.71	5.61	4.12	8.99	7.61	6.34	4.53
21	5.85	5.30	5.82	5.24	4.95	5.67	5.58	4.15	9.27	7.77	6.20	4.49
22	5.78	5.29	5.80	5.26	5.56	5.81	5.55	4.28	9.51	7.84	6.14	4.46
23	5.71	5.36	5.78	5.30	5.68	6.12	5.50	4.35	9.48	7.96	6.03	4.46
24	5.67	5.38	5.76	5.26	5.65	6.36	5.44	4.69	e9.37	8.30	5.88	4.44
25	5.60	5.37	5.74	5.23	5.68	6.37	5.38	4.79	9.27	8.71	5.75	4.51
26	5.54	5.34	5.70	5.20	5.75	6.45	5.30	4.69	9.12	9.02	5.68	4.72
27	5.49	5.33	5.68	5.17	5.87	6.51	5.22	4.64	8.89	9.28	5.69	4.69
28	5.44	5.41	5.66	5.14	5.86	6.51	5.11	4.63	8.63	9.39	5.95	4.61
29	5.40	5.44	5.65	5.12	---	6.47	5.03	4.61	8.39	9.32	5.87	4.56
30	5.37	5.47	5.63	5.10	---	6.46	4.96	4.57	8.25	9.20	5.84	4.52
31	5.34	---	5.62	5.11	---	6.52	---	4.49	---	9.07	5.87	---
TOTAL	195.75	162.74	175.65	168.10	144.08	189.40	171.32	140.69	231.07	254.15	213.26	150.18
MEAN	6.31	5.42	5.67	5.42	5.15	6.11	5.71	4.54	7.70	8.20	6.88	5.01
MAX	7.35	5.67	5.82	5.98	5.86	6.52	6.45	5.08	9.51	9.39	8.92	5.93
MIN	5.34	5.23	5.47	5.10	4.81	5.67	4.96	4.12	4.05	7.28	5.68	4.44

CAL YR 1988 TOTAL 2339.13 MEAN 6.39 MAX 11.16 MIN 4.63
WTR YR 1989 TOTAL 2196.39 MEAN 6.02 MAX 9.51 MIN 4.05

e Estimated

02326512 AUCILLA RIVER NEAR SCANLON, FL

LOCATION.--Lat 30°13'52", long 83°55'08", in SW¼ sec.10, T.3 S., R.4 E., Taylor County, Hydrologic Unit 03110103, on left bank, 3 mi west of Cabbage Grove, 6.9 mi north of Scanlon, 12 mi southwest of Lamont and 14 mi upstream from mouth.

DRAINAGE AREA.--805 mi^2.

PERIOD OF RECORD.--March 1950 to November 1957, crest-stage partial-record station; May 1965, May 1967 (one discharge measurement made each water year); August 1976 to current year.

REVISED RECORDS.--WRD FL-88-4: 1986, 1987.

GAGE.--Water-stage recorder. Datum of gage is 3.14 ft above National Geodetic Vertical Datum of 1929, unadjusted. February 1950 to November 1957, crest-stage gage at same site at present datum. August 30, 1976 to April 24, 1982, water-stage recorder at same site and datum. April 25, 1982 to October 24, 1984, nonrecording gage.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--13 years, 567 ft^3/s, 9.57 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,460 ft^3/s, Apr. 8, 1984, gage height, 20.47 ft from floodmark; minimum, 31 ft^3/s Oct. 10, 1981; minimum gage height, 2.76 ft, June 14, 1985.

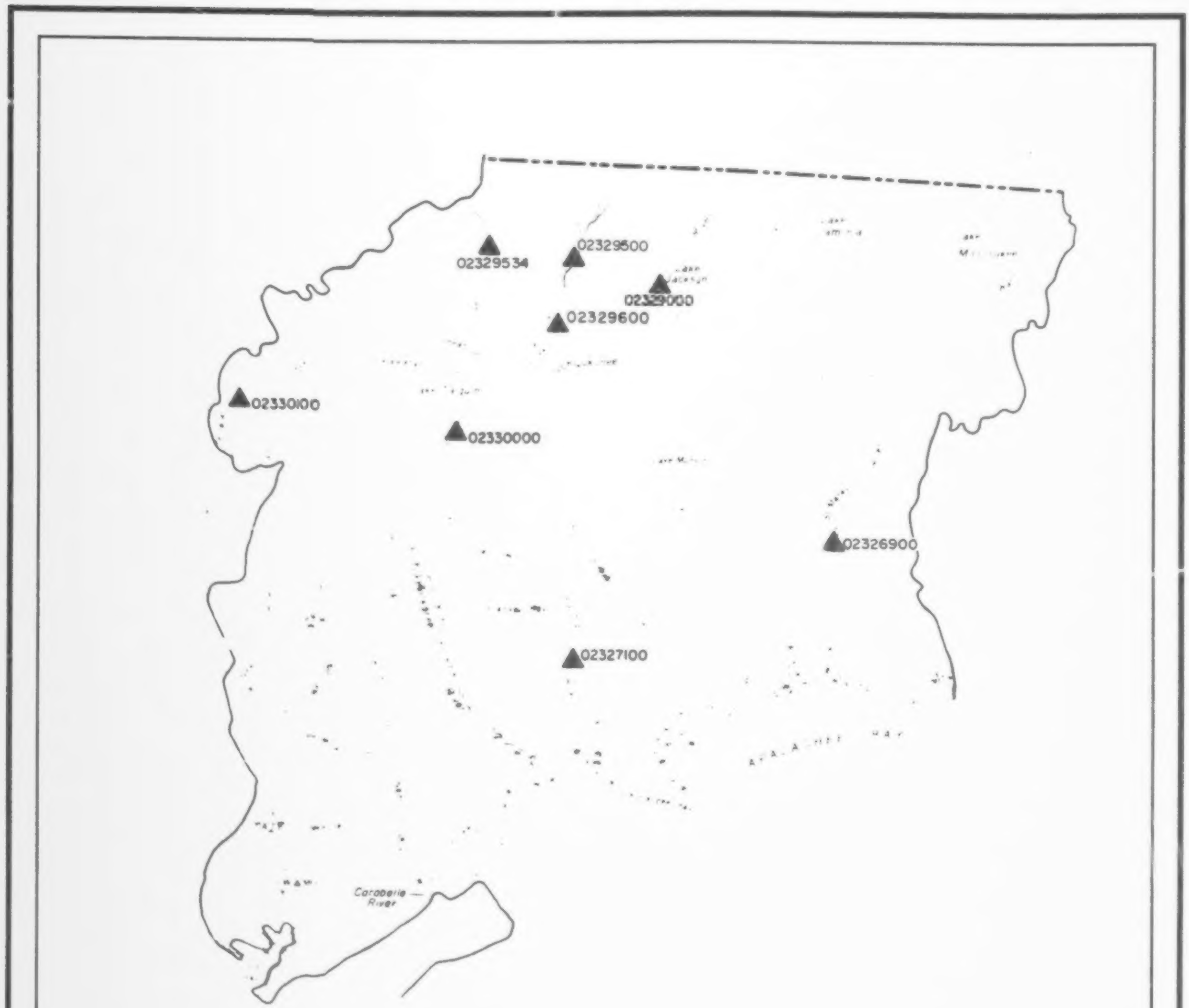
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 9, 1973, reached a stage of about 23.5 ft, from floodmarks, (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,090 ft^3/s, June 24, gage height, 10.58 ft; minimum, 33 ft^3/s, May 21, June 5, 6, minimum gage height, 2.89 ft, May 21, June 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	464	93	89	105	67	145	244	61	48	641	834	174
2	426	89	90	127	67	152	232	62	44	644	781	180
3	412	86	93	146	66	176	222	66	40	642	758	177
4	449	85	94	128	64	192	213	63	37	615	757	166
5	460	93	96	120	63	192	204	56	34	629	719	157
6	444	111	96	116	62	189	193	52	40	666	658	148
7	426	113	96	112	62	189	185	49	75	695	593	137
8	406	109	95	108	62	186	176	47	135	744	546	129
9	381	106	93	105	62	183	167	43	172	728	497	122
10	359	106	91	101	61	181	158	47	502	676	462	113
11	340	104	94	98	59	178	153	47	671	624	423	104
12	319	101	104	95	58	175	151	54	747	561	387	97
13	294	96	120	93	57	172	143	53	831	500	359	90
14	270	94	120	90	56	168	134	47	896	516	370	84
15	252	92	119	89	56	164	133	43	904	594	356	79
16	236	89	124	86	56	160	144	40	898	560	328	74
17	223	87	126	84	55	156	146	39	908	488	306	70
18	209	85	128	81	54	150	134	37	885	528	285	68
19	196	82	128	79	53	143	129	35	943	582	276	64
20	185	79	128	78	52	136	125	34	895	678	268	61
21	177	77	128	76	57	132	121	35	893	670	247	59
22	170	78	126	77	72	139	117	36	970	677	226	57
23	160	79	124	78	116	174	111	40	1060	720	214	56
24	151	83	122	78	120	212	106	51	1080	760	191	56
25	139	83	119	76	119	223	98	56	1020	811	172	59
26	129	81	116	75	124	226	90	63	947	872	160	62
27	121	80	113	74	133	239	82	58	870	936	151	67
28	114	83	110	73	143	245	75	54	779	991	165	65
29	108	85	109	71	---	243	68	53	703	991	180	60
30	103	88	107	69	---	241	63	52	663	944	172	57
31	97	---	106	68	---	247	---	51	---	891	170	---
TOTAL	8220	2717	3404	2856	2076	5708	4317	1524	18690	21574	12011	2892
MEAN	265	90.6	110	92.1	74.1	184	144	49.2	623	696	387	96.4
MAX	464	113	128	146	143	247	244	66	1080	991	834	180
MIN	97	77	89	68	52	132	63	34	34	488	151	56
CFSM	.33	.11	.14	.11	.09	.23	.18	.06	.77	.87	.48	.12
IN.	.38	.13	.16	.13	.10	.26	.20	.07	.86	1.00	.56	.13
AC-FT	16300	5390	6750	5660	4120	11320	8560	3020	37070	42790	23820	5740

CAL YR 1988 TOTAL 131429 MEAN 359 MAX 2460 MIN 45 CFSM .45 IN 6.07 AC-FT 260700
WTR YR 1989 TOTAL 85989 MEAN 236 MAX 1080 MIN 34 CFSM .29 IN 3.97 AC-FT 170600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Lake Jackson
APALACHEE BAY
Carabelle River
EXPLANATION
02327100
STREAM GAGING STATION

Figure 19.--Location stream gaging stations in the St. Marks, and Ochlockonee River basins.

02326900 ST. MARKS RIVER NEAR NEWPORT, FL

LOCATION.--Lat 30°16'00", long 84°09'00", in SE¼ sec.32, T.2 S., R.2 E., Wakulla County, Hydrologic Unit 03120001, on left bank 0.9 mi downstream from Rhodes Springs, 6 mi north of Newport, 11 mi upstream from Wakulla River, and 14 mi upstream from mouth.

DRAINAGE AREA.--535 mi^2 including 290 mi^2 of Lake Miccosukee, which contributes at high stages to the St. Marks River.

PERIOD OF RECORD.--October 1956 to September 1976. October 1976 to September 1977 (gage heights only); October 1977 to current year.

REVISED RECORDS.--WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3.53 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--33 years (water years 1957-76, 1978-89), 704 ft^3/s, 510,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,750 ft^3/s Apr. 7, 1973, gage height, 11.81 ft; minimum discharge, 310 ft^3/s Apr. 25, 1964, Oct. 4-6, 1968; minimum gage height, 4.20 ft Mar. 17, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,730 ft^3/s, June 16, estimated, gage height, 7.43 ft, estimated; minimum daily, 672 ft^3/s, Feb. 13, gage height, 5.38 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	966	787	762	728	695	708	899	855	845	e1480	e878	876
2	948	784	753	727	694	712	891	854	844	e1490	e873	877
3	993	783	749	729	694	731	885	848	844	e1480	e870	884
4	1040	790	747	721	691	744	878	848	843	e1450	e867	941
5	1010	823	744	715	689	752	869	857	846	e1380	e865	892
6	987	808	743	717	689	756	854	855	861	e1350	e864	874
7	958	797	744	716	691	747	847	846	906	e1320	e862	865
8	932	791	745	716	687	739	842	841	938	e1310	e860	858
9	914	788	747	714	679	732	840	839	1540	e1270	e858	851
10	899	787	746	710	675	728	836	849	e1570	e1230	e856	845
11	890	783	754	708	674	725	834	842	e1530	e1190	e854	840
12	879	778	757	709	673	726	835	840	e1510	e1150	e855	836
13	863	778	755	710	672	728	838	840	e1600	e1120	e854	832
14	851	775	751	710	673	730	838	839	e1660	e1070	e856	829
15	845	773	750	709	674	733	852	838	e1710	e1040	e855	825
16	841	774	747	704	676	734	855	837	e1730	e1020	e856	823
17	836	776	740	699	675	734	855	834	e1710	e1020	e857	818
18	831	771	732	697	673	736	854	829	e1660	e1010	e856	811
19	828	773	729	696	674	733	851	828	e1600	e1010	e857	805
20	824	781	730	695	678	732	847	829	e1550	e1020	e858	802
21	829	777	730	691	710	738	844	830	1530	e1000	e860	800
22	821	774	729	689	741	752	843	833	1470	e996	e861	799
23	819	769	729	686	726	832	843	849	e1410	e972	e862	799
24	817	765	730	686	720	828	841	869	e1390	e952	e861	796
25	806	764	728	687	719	836	839	875	e1380	e943	e862	811
26	803	765	721	689	719	859	839	870	e1390	e924	e863	814
27	802	773	718	690	719	882	837	866	e1400	e910	e864	804
28	800	772	721	690	718	868	836	860	e1370	e901	e866	795
29	795	766	720	690	---	850	836	851	e1410	e896	e868	792
30	798	767	721	694	---	873	840	848	e1450	e887	e871	794
31	792	---	723	694	---	912	---	848	---	e882	873	---
TOTAL	27017	23392	22895	21816	19398	23890	25498	26247	40497	34673	26722	24988
MEAN	872	780	739	704	693	771	850	847	1350	1118	862	833
MAX	1040	823	762	729	741	912	899	875	1730	1490	878	941
MIN	792	764	718	686	672	708	834	828	843	882	854	792
AC-FT	53590	46400	45410	43270	38480	47390	50580	52060	80330	68770	53000	49560
CFSM	1.63	1.46	1.38	1.32	1.29	1.44	1.59	1.58	2.52	2.09	1.61	1.56
IN.	1.88	1.63	1.59	1.52	1.35	1.66	1.77	1.83	2.82	2.41	1.86	1.74

CAL YR 1988 TOTAL 318613 MEAN 871 MAX 1820 MIN 574 AC-FT 632000 CFSM 1.63 IN. 22.15
WTR YR 1989 TOTAL 317033 MEAN 869 MAX 1730 MIN 672 AC-FT 628800 CFSM 1.62 IN. 22.04

e Estimated

OCHLOCKONEE RIVER BASIN

02327100 SOPCHOPPY RIVER NEAR SOPCHOPPY, FL

(Hydrologic bench-mark station)

LOCATION.--Lat 30°07'45", long 84°29'40" in NW1/4 sec.24, T.4 S., R.3 W., Wakulla County, Hydrologic Unit 03120003, Apalachicola National Forest, near left bank on downstream side of bridge on U.S. Forest Road 343, 4.7 mi north of Sopchoppy, 5.2 mi upstream from Duval Branch, and 24 mi upstream from mouth.

DRAINAGE AREA.--102 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Water years 1961-64 (annual maximum); June 1964 to current year.

REVISED RECORDS.--WSP 1905, WRD FL-76-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Jan. 27, 1961 to June 3, 1964, nonrecording gage and crest-stage gage at same site at datum 9.63 ft higher.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--25 years (water years 1965-89), 195 ft^3/s, 25.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,260 ft^3/s July 31, 1975, gage height, 34.47 ft, from rating curve extended above 3,500 ft^3/s by velocity-area study; minimum, 0.90 ft^3/s, June 5, 1989; minimum gage height, 7.94 ft June 4, 5, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 7	1100	*1,310	*21.93	No other peak greater than base discharge.			

Minimum discharge, 0.90 ft^3/s, June 5, gage height, 8.10 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	24	162	20	4.1	49	215	5.1	2.1	426	143	98
2	99	20	131	23	3.9	44	177	13	1.9	542	132	181
3	367	18	107	23	3.5	65	139	10	1.5	676	111	293
4	853	16	88	22	3.3	82	108	8.9	1.2	918	82	424
5	1040	45	75	20	3.2	87	83	7.0	1.0	893	58	361
6	906	102	63	18	3.0	81	67	5.5	2.1	1030	42	284
7	689	82	53	16	3.0	71	55	4.0	6.5	1290	30	217
8	516	73	45	15	2.8	60	43	3.0	102	1150	22	166
9	378	63	39	14	2.7	51	34	2.5	364	1000	18	126
10	283	54	34	13	2.7	43	27	3.2	608	827	15	92
11	215	45	34	12	2.5	37	24	4.1	805	623	12	66
12	163	38	61	11	2.5	31	20	3.2	975	467	11	46
13	122	32	82	11	2.3	26	17	2.4	942	360	11	32
14	89	28	86	10	2.3	22	14	2.1	766	293	11	24
15	65	25	80	9.7	2.2	19	13	1.9	598	249	12	17
16	49	22	74	8.9	2.1	16	19	1.7	584	247	10	13
17	37	20	68	8.1	2.0	14	25	1.5	775	245	11	11
18	29	18	60	7.3	1.9	12	24	1.2	730	213	12	8.4
19	22	16	52	6.6	1.8	11	20	1.1	621	189	9.8	7.1
20	19	16	45	6.2	1.8	9.8	22	1.0	520	199	8.5	6.1
21	16	28	40	6.4	7.3	14	19	2.9	483	245	6.8	5.1
22	13	40	36	7.4	73	95	15	5.1	472	340	6.1	4.4
23	12	43	32	8.7	104	289	13	4.4	418	650	5.2	4.1
24	10	41	29	8.8	103	473	11	17	431	797	5.1	4.2
25	9.2	36	27	7.9	89	564	8.5	23	466	733	4.7	16
26	8.2	31	24	7.2	75	518	6.9	14	460	609	5.3	404
27	7.4	29	22	6.5	66	438	5.7	11	488	459	19	659
28	8.2	105	20	6.0	57	366	4.6	8.3	384	345	51	616
29	9.3	190	20	5.4	---	302	3.7	5.8	315	258	45	509
30	14	190	19	4.9	---	258	3.3	4.1	344	197	43	400
31	32	---	19	4.5	---	239	---	2.9	---	165	42	---
TOTAL	6193.3	1490	1727	348.5	627.9	4386.8	1236.7	180.9	12667.3	16635	994.5	5094.4
MEAN	200	49.7	55.7	11.2	22.4	142	41.2	5.84	422	537	32.1	170
MAX	1040	190	162	23	104	564	215	23	975	1290	143	659
MIN	7.4	16	19	4.5	1.8	9.8	3.3	1.0	1.0	165	4.7	4.1
CFSM	1.96	.49	.55	.11	.22	1.39	.40	.06	4.14	5.27	.32	1.67
IN.	2.26	.54	.63	.13	.23	1.60	.45	.07	4.62	6.07	.36	1.86
AC-FT	12280	2960	3430	691	1250	8700	2450	359	25130	33000	1970	10100

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CAL YR 1988  TOTAL  56900.3  MEAN 155  MAX  1830  MIN 1.9  CFSM 1.52  IN 20.75  AC-FT  112900
WTR YR 1989  TOTAL  51582.3  MEAN 141  MAX  1290  MIN 1.0  CFSM 1.38  IN 18.81  AC-FT  102300
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02327100 SOPCHOPPY RIVER NEAR SOPCHOPPY, FL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUC-TANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)
DEC												
07...	1645	51	32	5.00	11.0	1.2	10.1	91	27	K16	10	--
MAR												
03...	1220	66	38	4.70	16.0	2.5	9.2	93	200	74	11	--
JUN												
28...	1530	367	44	4.00	25.0	1.7	6.3	76	K8	110	5	--
AUG												
25...	1910	4.5	112	7.70	29.0	.90	5.9	76	48	61	59	7

DATE	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA-LINITY LAB (MG/L AS CACO3)	ALKA-LINITY WAT.DIS FIELD INC.T. (MG/L CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)
DEC												
07...	--	3.2	.57	1.8	27	.3	.20	2	<1.0	2	--	18
MAR												
03...	--	3.3	.70	2.0	28	.3	.10	<1	<1.0	<1	--	18
JUN												
28...	--	1.3	.32	2.1	49	.4	.10	<1	<1.0	<1	--	<1.0
AUG												
25...	7	20	2.2	2.3	8	.1	.20	59	52	48	2.0	<1.0

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)
DEC												
07...	6.1	<.10	7.1	76	.10	10	<.010	<.10	.040	.040	.05	--
MAR												
03...	6.3	.10	6.4	69	.09	12	<.010	<.10	.010	.030	.04	--
JUN												
28...	8.5	.10	4.4	97	.13	96	.020	<.10	.040	.050	.06	.07
AUG												
25...	5.3	.10	8.2	91	.12	1.1	.010	<.10	.020	.030	.04	.03

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
DEC												
07...	.56	.60	.020	.010	<.010	--	470	<1	3	<.5	<1	1
MAR												
03...	.49	.50	.020	.010	.010	.03	470	<1	11	<.5	2	<1
JUN												
28...	1.1	1.1	.020	.020	.020	.06	770	<1	4	<.5	<1	1
AUG												
25...	.58	.60	.060	.050	.060	.18	240	<1	6	<.5	<1	<1

02327100 SOPCHOPPY RIVER NEAR SOPCHOPPY, FL--Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
DEC 07...	<3	<1	370	<5	<4	9	<.1	<10	2	<1	<1	8
MAR 03...	<3	<1	300	<5	<4	6	<.1	<10	7	<1	<1	9
JUN 28...	<3	1	1100	2	<4	7	<.1	<10	<1	<1	<1	4
AUG 25...	<3	<1	470	<1	<4	4	<.1	<10	<1	<1	<1	50

DATE	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 07...	<6	<3	--	--	--	--	--	--	--	--	--	--
MAR 03...	<6	5	.6	<.4	.7	<.4	.7	<.4	.11	6	1.1	33
JUN 28...	<6	4	--	--	--	--	--	--	--	8	7.9	62
AUG 25...	<6	8	--	--	--	--	--	--	--	3	.04	100

02329000 OCHLOCKONEE RIVER NEAR HAVANA, FL
(National stream-quality accounting network station)

LOCATION.--Lat 30°33'14", long 84°23'03", in SE1/4 sec.24, T.2 N., R.2 W., Leon County, Hydrologic Unit 03120003, near left bank on downstream side of downstream bridge on divided U.S. Highway 27, 0.8 mi upstream from Seaboard Air Line Railroad bridge, 4.0 mi downstream from Mill Creek, 5.0 mi southeast of Havana, and 94 mi upstream from mouth.

DRAINAGE AREA.--1,140 mi², approximately. At site used prior to January 1929, 1,220 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1926 to current year. June 1926 to December 1929 (published as "at Ochlockonee"). Records published for both sites December 1928 to December 1929.

REVISED RECORDS.--WSP 822: 1929 (M). WSP 1504: 1928. WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 59.36 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1930, nonrecording gage at site about 10 mi downstream at datum 9.36 ft lower. Dec. 12, 1928, to Nov. 17, 1963, nonrecording gage at site 100 ft upstream at present datum. Nov. 18, 1963 to Nov. 15, 1976, nonrecording gage at same site and datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--63 years, 1,040 ft³/s, 12.40 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,900 ft³/s Apr. 4, 1948, gage height, 35.08 ft; minimum, 17 ft³/s Oct. 23-28, Nov. 1, 1954; minimum gage height, 10.75 ft Oct. 31, Nov. 1, 3, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,880 ft³/s, July 24, gage height, 24.73 ft; minimum, 53 ft³/s, Nov. 18-22, gage height, 11.29 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	58	72	100	76	324	619	175	148	1150	2020	691
2	102	57	70	99	85	303	588	170	129	1030	1720	692
3	106	56	67	97	93	316	550	191	115	977	1440	689
4	106	57	65	94	90	349	503	260	104	969	1200	669
5	124	65	64	93	86	406	452	304	99	1040	1000	636
6	203	66	63	93	86	421	407	312	109	1170	846	594
7	260	68	62	98	89	405	366	302	120	1250	727	545
8	265	72	61	107	97	381	335	279	148	1320	611	505
9	236	75	60	111	104	357	309	251	376	1400	525	468
10	202	71	60	113	106	335	312	235	642	1420	467	424
11	178	65	63	110	107	316	291	222	696	1360	436	389
12	160	61	72	107	103	302	268	223	951	e1230	423	369
13	144	59	78	104	99	289	248	274	1170	e1100	410	344
14	131	57	86	100	93	276	232	281	1350	e920	403	311
15	120	57	98	100	90	261	239	257	1390	e880	398	281
16	110	56	103	101	95	243	283	233	1340	e950	392	256
17	101	55	104	96	96	228	334	208	1290	e1120	380	239
18	93	53	104	93	86	217	373	185	1260	e1390	364	219
19	87	53	104	91	81	205	381	166	1600	e1780	345	208
20	82	53	104	89	79	199	370	154	2490	2270	324	195
21	78	53	104	86	102	195	354	151	2820	2860	309	182
22	73	55	103	83	199	222	335	147	2650	3410	300	171
23	69	62	102	82	288	318	314	156	2430	3780	290	161
24	66	77	102	81	400	437	291	259	2320	3830	276	152
25	63	83	100	80	435	547	273	309	2250	3630	262	156
26	61	86	99	79	423	647	255	412	2120	3440	256	181
27	59	87	97	78	390	710	234	424	1910	3340	284	179
28	60	86	95	76	355	740	214	336	1680	3210	328	184
29	59	79	93	74	---	736	198	255	1460	2950	428	206
30	61	75	98	74	---	708	182	206	1270	2610	517	203
31	59	---	100	74	---	664	---	174	---	2300	596	---
TOTAL	3622	1957	2653	2863	4433	12057	10110	7511	36437	60086	18277	10499
MEAN	117	65.2	85.6	92.4	158	389	337	242	1215	1938	590	350
MAX	265	87	104	113	435	740	619	424	2820	3830	2020	692
MIN	59	53	60	74	76	195	182	147	99	880	256	152
AC-FT	7180	3880	5260	5680	8790	23920	20050	14900	72270	119200	36250	20820
CFSM	.10	.06	.08	.08	.14	.34	.30	.21	1.07	1.70	.52	.31
IN.	.12	.06	.09	.09	.14	.39	.33	.25	1.19	1.96	.60	.34

CAL YR 1988 TOTAL 290595 MEAN 794 MAX 13000 MIN 53 AC-FT 576400 CFSM .70 IN. 9.48
WTR YR 1989 TOTAL 170505 MEAN 467 MAX 3830 MIN 53 AC-FT 338200 CFSM .41 IN. 5.56

e Estimated

OCHLOCKONEE RIVER BASIN
02329000 OCHLOCKONEE RIVER NEAR HAVANA, FL--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.99	11.35	11.56	11.95	11.62	14.31	16.32	12.59	12.30	19.12	21.79	16.80
2	11.97	11.34	11.53	11.93	11.74	14.13	16.12	12.53	12.09	18.62	21.00	16.81
3	12.02	11.33	11.50	11.91	11.86	14.25	15.85	12.76	11.92	18.41	20.16	16.79
4	12.02	11.34	11.46	11.87	11.81	14.53	15.51	13.46	11.80	18.37	19.31	16.66
5	12.24	11.46	11.44	11.85	11.75	15.01	15.11	13.87	11.73	18.66	18.50	16.44
6	13.16	11.48	11.43	11.85	11.76	15.13	14.75	13.94	11.85	19.22	17.74	16.16
7	13.73	11.51	11.42	11.92	11.79	15.00	14.41	13.85	11.98	19.51	17.03	15.82
8	13.78	11.56	11.41	12.03	11.90	14.80	14.14	13.65	12.30	19.76	16.27	15.53
9	13.50	11.61	11.40	12.09	12.00	14.60	13.92	13.38	14.38	20.02	15.67	15.24
10	13.15	11.55	11.39	12.11	12.02	14.41	13.94	13.23	16.48	20.10	15.23	14.89
11	12.88	11.47	11.44	12.08	12.04	14.25	13.75	13.10	16.83	19.91	14.99	14.60
12	12.68	11.40	11.56	12.04	11.99	14.12	13.54	13.10	18.27	19.42	14.88	14.44
13	12.50	11.38	11.64	11.99	11.93	14.00	13.35	13.59	19.19	18.92	14.78	14.22
14	12.34	11.35	11.76	11.96	11.86	13.88	13.20	13.66	19.87	18.16	14.71	13.93
15	12.20	11.34	11.92	11.96	11.81	13.74	13.26	13.43	19.99	17.89	14.68	13.66
16	12.07	11.34	11.98	11.96	11.88	13.57	13.68	13.20	19.82	18.29	14.62	13.43
17	11.95	11.32	11.99	11.89	11.89	13.42	14.13	12.95	19.66	19.00	14.53	13.26
18	11.86	11.30	12.00	11.86	11.76	13.32	14.47	12.70	19.53	19.98	14.39	13.07
19	11.77	11.29	12.00	11.83	11.69	13.19	14.54	12.49	20.60	21.17	14.23	12.95
20	11.70	11.30	11.99	11.79	11.65	13.12	14.44	12.35	22.90	22.42	14.05	12.81
21	11.64	11.30	11.99	11.75	11.95	13.07	14.30	12.33	23.47	23.52	13.91	12.67
22	11.58	11.32	11.99	11.72	13.12	13.33	14.15	12.28	23.22	24.27	13.83	12.54
23	11.52	11.42	11.98	11.70	13.98	14.19	13.96	12.38	22.84	24.65	13.74	12.43
24	11.48	11.63	11.97	11.69	14.96	15.15	13.75	13.46	22.56	24.69	13.61	12.34
25	11.44	11.72	11.95	11.67	15.25	15.95	13.59	13.92	22.39	24.52	13.49	12.38
26	11.40	11.75	11.93	11.66	15.15	16.60	13.41	14.79	22.06	24.31	13.43	12.66
27	11.38	11.76	11.90	11.65	14.87	16.97	13.22	14.88	21.50	24.17	13.69	12.63
28	11.39	11.76	11.87	11.62	14.58	17.12	13.02	14.15	20.87	24.01	14.08	12.68
29	11.38	11.66	11.86	11.59	---	17.09	12.84	13.42	20.22	23.66	14.92	12.93
30	11.40	11.60	11.91	11.59	---	16.91	12.66	12.92	19.56	23.15	15.61	12.89
31	11.38	---	11.95	11.60	---	16.63	---	12.57	---	22.52	16.17	---
TOTAL	375.50	343.94	364.12	367.11	350.61	455.79	423.33	410.93	542.18	650.42	485.04	423.66
MEAN	12.11	11.46	11.75	11.84	12.52	14.70	14.11	13.26	18.07	20.98	15.65	14.12
MAX	13.78	11.76	12.00	12.11	15.25	17.12	16.32	14.88	23.47	24.69	21.79	16.81
MIN	11.38	11.29	11.39	11.59	11.62	13.07	12.66	12.28	11.73	17.89	13.43	12.34

CAL YR 1988 TOTAL 5401.94 MEAN 14.76 MAX 29.00 MIN 11.29
WTR YR 1989 TOTAL 5192.63 MEAN 14.23 MAX 24.69 MIN 11.29

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1962 to June 1972, October 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
DEC											
06...	1445	63	268	7.80	11.0	3.1	11.6	104	250	K33	55
MAR											
02...	0945	302	244	--	13.0	12	9.6	91	130	340	--
29...	1445	734	--	--	--	8.6	--	--	--	--	25
JUN											
25...	0810	2270	--	6.60	24.0	13	4.3	51	210	1000	20
AUG											
28...	1845	345	129	7.00	27.5	6.6	5.6	70	170	290	33

DATE	HARDNESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKALINITY LAB (MG/L AS CACO3)	ALKALINITY WAT.DIS FIELD INC.T. (MG/L CACO3)
DEC											
06...	12	12	13	5.5	27	49	2	4.3	49	43	40
MAR											
02...	--	--	--	--	--	--	--	--	--	18	--
29...	13	13	5.5	2.7	27	67	2	2.9	--	12	--
JUN											
25...	9	9	4.7	2.0	18	63	2	2.5	12	11	10
AUG											
28...	9	9	7.6	3.4	11	40	.9	2.6	24	24	20

DATE	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
DEC											
06...	1.3	15	38	.20	5.8	154	140	.21	26	.010	1.2
MAR											
02...	--	--	--	--	--	--	--	--	--	<.010	<.10
29...	--	19	41	.10	7.9	120	110	.16	238	.010	.46
JUN											
25...	5.4	4.0	26	.10	6.9	95	72	.13	582	.010	.23
AUG											
28...	4.6	9.0	15	.20	8.9	83	74	.11	77	.010	.49

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NH4, WATER, DIS., (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)	ALUMINUM, DISSOLVED (UG/L AS AL)
DEC											
06...	<.010	<.010	--	.03	--	.50	.550	.410	.380	1.2	<20
MAR											
02...	.190	<.010	--	--	.61	.80	.370	<.010	<.010	--	--
29...	.100	.080	.10	.03	.60	.70	.280	.140	.090	.28	100
JUN											
25...	.110	.110	.14	.03	.69	.80	.280	.080	.100	.31	170
AUG											
28...	.030	.030	.04	.03	.37	.40	.250	.140	.120	.37	60

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
DEC											
06...	<1	9	<.5	<1	<1	<3	<1	220	<5	<4	25
MAR											
02...	--	--	--	--	--	--	--	--	--	--	--
29...	1	23	<.5	<1	<1	<3	<1	440	<5	<4	26
JUN											
25...	1	22	<.5	<1	1	<3	1	600	1	<4	45
AUG											
28...	<1	20	<.5	<1	1	<3	<1	980	<1	<4	47

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC											
06...	<.1	<10	<1	<1	<1	70	<6	<3	6	1.0	33
MAR											
02...	<.1	--	--	--	--	--	--	--	13	11	92
29...	<.1	<10	<1	<1	<1	34	<6	4	--	--	--
JUN											
25...	<.1	<10	<1	<1	<1	26	<6	6	27	165	70
AUG											
28...	<.1	<10	1	<1	<1	46	<6	4	14	13	86

02329500 LITTLE RIVER NEAR QUINCY, FL

LOCATION.--Lat 30°35'14", long 84°29'48", in NW1/4 sec.12, T.2 N., R.3 W., Gadsden County, Hydrologic Unit 03120003, near left bank on downstream side of bridge on State Highway 12, 0.5 mi southwest of Shady Rest, 1.1 mi down stream from confluence of Willacoochee and Attapulgus Creeks, 4.5 mi east of Quincy, and 12 mi upstream from mouth.

DRAINAGE AREA.--237 mi^2.

PERIOD OF RECORD.--April 1950 to March 1979; April 1979 to September 1980 (discharge measurements only); October 1980 to current year.

REVISED RECORDS.--WSP 1704: 1958, 1959; WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 83.19 ft above National Geodetic Vertical Datum of 1929, unadjusted. Prior to June 5, 1978 at site 50 ft downstream at same datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--37 years (water years 1951-78, 1981-89), 292 ft^3/s 16.73 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,600 ft^3/s, Sept. 22, 1969, gage height, 24.65 ft, from floodmarks; minimum, 6.7 ft^3/s Oct. 5, 6, 1968, July 2, 1969, gage height, 0.52 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
June 11	0500	*2630	*12.31	No other peak greater than base discharge.			

Minimum discharge, 15 ft^3/s June 4, 5, minimum gage height, 0.71 ft., May 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	57	55	70	73	e95	128	38	21	315	89	82
2	47	48	53	70	70	e205	102	115	20	453	98	87
3	69	45	50	68	63	e280	85	127	18	424	87	111
4	163	42	49	64	58	e240	76	77	16	356	75	81
5	150	54	50	58	56	e165	74	52	17	346	71	81
6	121	101	52	55	54	e120	85	39	33	616	62	57
7	84	82	51	57	61	e105	77	35	49	749	54	46
8	63	63	51	59	117	e100	65	31	122	734	57	e38
9	56	54	52	59	98	e95	72	28	804	411	75	e31
10	51	49	52	59	74	e90	146	36	1780	182	75	e29
11	47	47	58	60	64	e85	91	68	2260	126	71	e25
12	45	46	113	57	58	e80	80	61	1160	96	64	e23
13	43	43	127	60	56	e80	73	52	502	109	59	e23
14	39	45	107	62	54	e75	63	37	170	142	64	e22
15	37	47	88	61	53	70	117	31	124	149	102	e21
16	37	48	78	60	53	61	229	29	131	179	165	e27
17	36	53	82	58	48	73	159	27	263	207	135	e47
18	34	54	81	54	48	67	113	25	379	160	95	e50
19	35	48	72	52	49	61	88	24	385	133	73	e45
20	35	50	68	52	e110	60	75	23	490	311	59	e38
21	36	85	66	53	e310	61	62	52	865	580	51	e34
22	36	101	67	53	e430	287	56	93	1110	818	80	e29
23	35	86	66	52	e315	483	48	129	836	1000	68	e27
24	34	75	69	51	e200	631	43	541	705	928	51	e29
25	35	66	69	49	e145	545	40	483	530	502	45	40
26	34	61	65	48	e115	318	36	242	445	258	41	146
27	33	59	60	47	e105	201	32	102	387	198	78	141
28	35	63	59	47	e100	146	30	59	191	154	85	103
29	38	63	64	47	---	119	33	39	181	128	112	80
30	43	58	66	48	---	111	32	30	173	109	83	69
31	51	---	66	62	---	149	---	25	---	97	75	---
TOTAL	1644	1793	2106	1752	3037	5258	2410	2750	14167	10970	2399	1662
MEAN	53.0	59.8	67.9	56.5	108	170	80.3	88.7	472	354	77.4	55.4
MAX	163	101	127	70	430	631	229	541	2260	1000	165	146
MIN	33	42	49	47	48	60	30	23	16	96	41	21
AC-FT	3260	3560	4180	3480	6020	10430	4780	5450	28100	21760	4760	3300
CFSM	.22	.25	.29	.24	.46	.72	.34	.37	1.99	1.49	.33	.23
IN.	.26	.28	.33	.27	.48	.83	.38	.43	2.22	1.72	.38	.26

CAL YR 1988 TOTAL 80520 MEAN 220 MAX 5630 MIN 24 AC-FT 159700 CFSM .93 IN. 12.64
WTR YR 1989 TOTAL 49948 MEAN 137 MAX 2260 MIN 16 AC-FT 99070 CFSM .58 IN. 7.84

e Estimated

02329534 QUINCY CREEK AT S267 AT QUINCY, FL

LOCATION.--Lat 30°36'00", long 84°34'50", in NW¼ sec.6, T.2 N., R.3 W., Gadsden County, Hydrologic Unit 03120003, at culvert on State Highway 267, 0.9 mi north of Quincy, and 6.2 mi upstream from mouth.

DRAINAGE AREA.--16.8 mi².

PERIOD OF RECORD.--October 1974 to September 1977, December 1977 to current year.

REVISED RECORDS.--WDR FL-83-4: 1980(M). WDR FL-85-4: 1975(P), 1976, 1977, 1979(M).

GAGE.--Water-stage recorder. Datum of gage is 129.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Streamflow affected by city water plant withdrawal about 400 ft above gage.

AVERAGE DISCHARGE.--14 years (water years 1975-77, 1978-89), 27.6 ft³/s, 22.31 in/yr (unadjusted).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,470 ft³/s, March 6, 1984, gage height, 8.64 ft; minimum, 2.3 ft³/s May 7, 8, 1985, May 26-29, 1986; minimum gage height, 0.09 ft May 7, 8, 1985.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 22, 1969, reached a stage of 11.68 ft, present datum, from floodmarks, discharge, 3,170 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft³/s and maximum (*).

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
May 23	2000	*552	*6.66	June 9	1130	420	5.40

Minimum discharge, 3.8 ft³/s, June 4, minimum gage height, 0.20 ft, Sept. 16..

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	14	14	15	14	14	16	23	8.0	18	12	12
2	18	13	14	14	12	20	15	22	6.9	30	12	12
3	41	12	14	14	11	30	13	15	5.8	33	12	11
4	33	12	13	13	11	23	13	12	5.2	34	10	15
5	24	25	12	13	11	19	15	9.8	6.9	74	9.5	12
6	19	22	12	13	11	17	16	8.5	17	64	8.4	11
7	17	16	12	13	20	15	14	7.2	20	43	8.1	9.2
8	15	14	12	15	19	14	12	6.3	48	32	15	8.5
9	14	14	13	14	15	14	36	6.0	227	24	14	7.5
10	13	12	13	14	13	13	28	41	91	19	12	6.7
11	13	13	22	13	14	13	20	27	66	17	11	6.5
12	13	12	24	12	13	12	17	18	47	15	11	5.5
13	11	12	22	13	12	12	14	14	30	17	11	5.2
14	12	11	19	14	12	11	13	12	23	19	11	4.8
15	11	12	18	14	11	11	38	10	19	19	12	4.9
16	13	13	18	13	11	12	27	8.5	37	19	13	7.5
17	13	17	17	13	12	14	21	7.2	40	17	13	8.7
18	12	13	16	12	11	16	18	6.1	30	15	11	7.5
19	12	13	15	12	11	12	17	6.1	26	26	9.8	6.3
20	12	19	15	13	11	8.6	15	9.3	39	43	9.3	5.7
21	11	20	16	12	43	38	13	42	48	44	8.3	6.0
22	11	18	16	12	42	58	12	36	35	34	7.5	5.7
23	11	16	16	11	27	83	10	153	29	30	7.7	5.6
24	10	15	15	11	21	44	9.2	94	25	27	6.7	6.7
25	9.9	14	16	12	18	33	8.6	45	21	24	6.1	22
26	9.8	14	14	12	16	27	7.8	33	17	20	12	21
27	10	14	13	11	15	23	7.2	24	15	17	24	16
28	10	14	14	11	15	20	7.7	18	14	14	21	14
29	15	13	15	10	---	20	10	15	14	13	15	13
30	18	14	15	13	---	22	10	11	14	13	13	16
31	15	---	15	15	---	19	---	9.6	---	12	11	---
TOTAL	461.7	441	480	397	452	687.6	473.5	749.6	1024.8	826	357.4	293.5
MEAN	14.9	14.7	15.5	12.8	16.1	22.2	15.8	24.2	34.2	26.6	11.5	9.78
MAX	41	25	24	15	43	83	38	153	227	74	24	22
MIN	9.8	11	12	10	11	8.6	7.2	6.0	5.2	12	6.1	4.8
CFSM	.89	.88	.92	.76	.96	1.32	.94	1.44	2.04	1.58	.69	.58
IN.	1.02	.98	1.06	.88	1.00	1.52	1.05	1.66	2.27	1.83	.79	.65
AC-FT	916	875	952	787	897	1360	939	1490	2030	1640	709	582

CAL YR 1988 TOTAL 9008.9 MEAN 24.6 MAX 396 MIN 6.5 CFSM 1.46 IN 19.95 AC-FT 17870
WTR YR 1989 TOTAL 6644.1 MEAN 18.2 MAX 227 MIN 4.8 CFSM 1.08 IN 14.71 AC-FT 13180

02329600 LITTLE RIVER NEAR MIDWAY, FL

LOCATION.--Lat 30°30'44", long 84°31'25", in SW¼ sec.3, T.1 N., R.3 W., Gadsden County, Hydrologic Unit 03120003, at bridge on State Highway 268, 0.5 mi upstream from Monroe Creek, 3.2 mi above mouth, and 3.7 mi west of Midway.

DRAINAGE AREA.--305 mi².

PERIOD OF RECORD.--Annual maximums, water years 1965-85. October 1985 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 22, 1985, nonrecording and crest-stage gages at same site and datum.

REMARKS.--Records good, except those below 200 ft³/s, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,200 ft³/s Sept. 22, 1969, from rating curve extended above 15,000 ft³/s; gage height, 86.25 ft from floodmarks; minimum daily, 38 ft³/s, Sept. 23, 24, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge estimated, 5,560 ft³/s, June 11, gage height, 76.90 ft estimated; minimum daily, 38 ft³/s, Sept. 23, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	89	81	106	116	159	192	98	86	373	107	112
2	96	88	81	114	114	150	171	127	86	571	89	118
3	136	85	82	114	109	258	156	153	86	663	98	121
4	216	85	83	102	100	332	146	118	85	542	84	99
5	203	109	84	93	96	300	137	102	96	560	71	102
6	142	136	84	86	94	233	144	87	139	981	68	94
7	100	125	77	91	98	177	128	77	157	1020	66	85
8	78	101	75	100	142	143	111	74	217	1010	65	77
9	70	87	77	104	131	124	101	77	e1540	723	73	70
10	69	77	79	97	113	120	304	114	e4050	305	82	62
11	69	75	90	92	105	120	195	199	e4500	219	91	59
12	69	75	134	86	102	118	165	127	e2440	195	77	57
13	64	76	151	90	100	122	150	105	1350	191	60	60
14	63	77	130	96	99	130	140	95	398	252	53	63
15	64	80	108	98	98	135	186	90	229	258	63	64
16	65	82	97	99	98	126	328	87	249	262	121	68
17	66	87	98	97	93	128	250	84	418	290	142	77
18	67	92	103	94	91	129	187	78	456	268	116	80
19	67	88	101	94	89	117	148	74	526	407	105	79
20	67	93	98	95	90	108	120	70	567	707	100	75
21	69	104	92	92	163	108	103	105	1190	1290	96	51
22	70	106	87	93	469	404	92	181	1510	1540	97	39
23	69	91	88	94	477	722	88	242	1460	1490	101	38
24	68	88	93	93	366	883	89	957	1210	1510	89	38
25	67	86	95	91	244	741	90	834	971	1130	79	45
26	66	87	92	91	193	473	91	479	685	473	74	194
27	66	94	88	89	178	299	89	236	611	297	101	212
28	68	96	81	90	173	220	88	144	355	243	153	173
29	70	88	87	92	---	195	88	101	288	201	158	157
30	80	81	93	96	---	180	90	92	300	163	97	125
31	85	---	98	106	---	193	---	88	---	141	87	---
TOTAL	2646	2728	2907	2975	4341	7647	4367	5495	26255	18275	2861	2694
MEAN	85.4	90.9	93.8	96.0	155	247	146	177	875	590	92.3	89.8
MAX	216	136	151	114	477	383	328	957	4500	1540	158	212
MIN	63	75	75	86	89	108	88	70	85	141	53	38
AC-FT	5250	5410	5770	5900	8610	15170	8660	10900	52080	36250	5670	5340
CFSM	.28	.30	.31	.31	.51	.81	.48	.58	2.87	1.93	.30	.29
IN.	.32	.33	.35	.36	.53	.93	.53	.67	3.20	2.23	.35	.33

CAL YR 1988 TOTAL 112770 MEAN 308 MAX 7000 MIN 63 AC-FT 223700 CFSM 1.01 IN. 13.75
WTR YR 1989 TOTAL 83191 MEAN 228 MAX 4500 MIN 38 AC-FT 165000 CFSM .75 IN. 10.15

e Estimated

02330000 OCHLOCKONEE RIVER NEAR BLOXHAM, FL

LOCATION.--Lat 30°23'10", long 84°38'59", in NE1/4 sec.20, T.1 S., R.4 W., Leon County, Hydrologic Unit 03120003, on left bank 900 ft upstream from bridge on State Highway 20, 1,200 ft downstream from C.H. Corn Hydroelectric Dam, 1.5 mi southwest of Bloxham, and 65 mi upstream from mouth.

DRAINAGE AREA.--1,700 mi², approximately.

PERIOD OF RECORD.--June 1926 to current year. Low-flow records not equivalent prior to October 1, 1954, due to undetermined amount of seepage inflow.

REVISED RECORDS.--WSP 1002: 1940-42. WSP 1704: 1958-59. WSP 1905, WRD FL-76-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 24.69 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 9, 1930, nonrecording gage at site 700 ft upstream at datum 5.00 ft higher. Apr. 9, 1930 to Jan. 19, 1939, water-stage recorder at present site at datum 5.00 ft higher. Jan. 20, 1939 to Sept. 30, 1954, water-stage recorder at site 2,000 ft downstream at datum 5.00 ft higher. Oct. 1, 1954 to Sept. 30, 1985, water-stage recorder at site 2,000 ft downstream at present datum.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated since 1929 by C.H. Corn Hydroelectric Dam (formerly Jackson Bluff Dam) above station and storage in Lake Talquin (02329900). Since October 1981, the publication of adjusted values for storage has been discontinued since the difference between adjusted and the unadjusted values have been minimal.

AVERAGE DISCHARGE.--61 years (water years 1927-82, 85-89), 1,682 ft³/s, 13.44 in/yr, unadjusted; 27 years (water years 1955-81) 1,781 ft³/s 14.23 in/yr, adjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 89,400 ft³/s Sept. 23, 1969, gage height, 29.2 ft, from floodmark; minimum discharge, since October 1954, 1.0 ft³/s Nov. 1,2, 1957, caused by closure of breaks in earth embankment of C.H. Corn Hydroelectric Dam (indeterminate prior to October 1954).

EXTREMES OUTSIDE THE PERIOD OF RECORD.--Maximum stage since 1834, 32.64 ft Sept. 30, 1957, from flood marks established by local resident, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,400 ft³/s, July 23, gage height, 16.81 ft; minimum discharge observed, 135 ft³/s, Nov. 11, gage height, 3.50 ft, but may have been lower during periods of generation shutdown when the water level was below intake pipe.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	323	145	163	176	212	781	639	346	241	2070	3480	1230
2	430	159	164	231	289	934	674	372	196	2340	2530	1720
3	698	160	166	364	327	747	674	281	187	3190	1970	1660
4	902	160	166	422	328	745	674	343	181	3250	1880	995
5	1140	177	166	429	317	903	675	410	197	3210	1770	881
6	1040	290	281	295	243	941	674	410	442	3440	1090	855
7	634	383	384	157	238	915	688	409	506	3690	876	844
8	439	385	170	157	238	807	570	286	1470	3580	849	835
9	380	381	161	263	237	659	401	194	2690	2940	720	828
10	251	301	161	409	238	453	393	193	5180	1920	299	779
11	230	148	270	417	239	443	391	223	5560	1210	356	471
12	212	155	449	354	238	389	391	330	4860	1520	1110	403
13	201	155	458	188	239	244	390	408	3610	2000	1190	221
14	175	155	451	248	238	279	391	300	2880	1970	928	272
15	168	157	446	253	238	350	517	286	2760	1670	326	285
16	169	157	389	252	238	429	631	283	2550	1610	283	316
17	165	157	191	253	238	457	637	283	2460	1600	282	401
18	158	157	184	241	238	487	636	284	2310	1590	322	406
19	159	158	217	191	238	488	628	285	2620	1850	325	396
20	159	241	299	201	208	672	621	285	2700	2620	324	770
21	160	379	420	229	502	624	618	285	3390	5080	371	1390
22	160	492	404	230	1280	1120	528	241	4570	6350	418	703
23	160	344	192	231	1090	2560	330	317	4370	5660	409	188
24	159	172	221	232	1080	3210	212	1520	3690	4910	408	182
25	158	170	257	243	979	2440	217	1670	3640	5010	406	188
26	158	170	259	218	800	1720	250	1570	3630	5050	409	190
27	159	182	333	209	669	1010	253	872	3630	4140	410	187
28	158	334	335	185	725	673	242	821	2980	3690	747	223
29	160	429	178	186	---	914	246	614	1920	3540	1560	508
30	161	216	176	187	---	1270	247	300	1800	3220	1280	1200
31	152	---	176	187	---	685	---	285	---	2840	652	---
TOTAL	9778	7069	8287	7838	12144	28349	14438	14706	77220	96760	27980	19527
MEAN	315	236	267	253	434	914	481	474	2574	3121	903	651
MAX	1140	492	458	429	1280	3210	688	1670	5560	6350	3480	1720
MIN	152	145	161	157	208	244	212	193	181	1210	282	182
CFSM	.19	.14	.16	.15	.26	.54	.28	.28	1.51	1.84	.53	.38
IN.	.21	.15	.18	.17	.27	.62	.32	.32	1.69	2.12	.61	.43
AC-FT	19390	14020	16440	15550	24090	56230	28640	29170	153200	191900	55500	38730

CAL YR 1988 TOTAL 453706 MEAN 1240 MAX 10400 MIN 83 CFSM .73 IN 9.93 AC-FT 899900
WTR YR 1989 TOTAL 324096 MEAN 888 MAX 6350 MIN 145 CFSM .52 IN 7.09 AC-FT 642800

02330100 TELOGIA CREEK NEAR BRISTOL, FL

LOCATION.--Lat 30°25'35", long 84°55'40", in NW¼ sec.3, T.1 S., R.7 W., Liberty County, Hydrologic Unit 03120003, near left bank at downstream side of bridge on State Highway 20, 600 ft upstream from White Branch, 3.0 mi east of Bristol, and 33 mi upstream from mouth.

DRAINAGE AREA.--126 mi^2.

PERIOD OF RECORD.--March 1950 to September 1971, October 1974 to September 1979, October 1980 to current year.

REVISED RECORDS.--WSP 1504: 1950-51, 1953 (M), 1955-56.

GAGE.--Water-stage recorder. Datum of gage is 99.50 ft above National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark).

REMARKS.--Records fair.

AVERAGE DISCHARGE.--35 years, (water years 1951-71, 1975-79, 1981-89) 221 ft^3/s, 23.82 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,600 ft^3/s Sept. 22, 1969, gage height, 16.65 ft, from floodmark; minimum, 28 ft^3/s Sept. 14, Oct. 26, 27, 1954, gage height, 1.35 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
June 10	1300	*2380	*8.09	No other peak greater than base discharge.			

Minimum discharge, 44 ft^3/s May 20; gage height, 1.90 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	134	83	84	65	85	131	79	56	154	148	146
2	82	103	82	84	66	87	108	120	54	157	144	215
3	164	91	80	84	65	128	95	144	51	239	155	200
4	383	86	80	81	63	172	90	102	48	247	137	140
5	451	99	80	77	61	156	88	78	55	351	113	119
6	244	125	80	75	61	112	103	68	152	665	102	109
7	144	126	80	74	69	96	140	63	233	875	94	101
8	116	104	79	74	102	88	113	67	422	565	95	95
9	103	93	82	74	137	83	93	70	858	345	109	90
10	96	88	85	74	106	80	91	59	2050	239	119	85
11	93	86	95	73	80	76	150	61	1220	166	114	81
12	90	83	146	73	73	72	151	77	623	141	105	78
13	86	82	173	75	69	69	113	80	500	e150	100	74
14	83	82	148	78	67	66	94	67	341	e200	101	71
15	81	84	119	77	65	64	143	63	199	e300	104	70
16	82	84	105	75	63	62	227	54	181	e500	117	71
17	82	99	98	72	62	78	258	50	303	e400	131	86
18	81	101	94	70	59	144	168	48	458	e300	116	96
19	90	96	92	68	57	121	113	46	433	e200	103	94
20	85	99	90	66	59	83	98	45	287	e300	93	78
21	80	135	88	67	115	88	95	47	245	365	89	72
22	80	146	87	68	294	256	100	54	337	441	85	73
23	79	125	85	66	374	583	89	73	508	406	87	72
24	78	107	85	65	324	822	80	141	886	375	81	72
25	77	99	84	64	141	661	80	297	475	329	78	105
26	77	93	82	62	104	328	69	453	256	245	110	154
27	74	94	81	62	94	187	66	201	187	211	284	163
28	74	92	79	61	89	143	62	108	180	162	299	142
29	74	89	79	59	---	124	61	83	177	142	323	120
30	77	86	86	59	---	118	61	70	175	252	251	110
31	106	---	86	62	---	129	---	62	---	173	164	---
TOTAL	3593	3011	2893	2203	2984	5361	3330	3030	11950	9595	4151	3182
MEAN	116	100	93.3	71.1	107	173	111	97.7	398	310	134	106
MAX	451	146	173	84	374	822	258	453	2050	875	323	215
MIN	74	82	79	59	57	62	61	45	48	141	78	70
AC-FT	7130	5970	5740	4370	5920	10630	6610	6010	23700	19030	8230	6310
CFSM	.92	.80	.74	.56	.85	1.37	.88	.78	3.16	2.46	1.06	.84
IN.	1.06	.89	.85	.65	.88	1.58	.98	.89	3.53	2.83	1.23	.94

CAL YR 1988 TOTAL 64881 MEAN 177 MAX 2800 MIN 48 AC-FT 128700 CFSM 1.41 IN. 19.16
WTR YR 1989 TOTAL 55283 MEAN 151 MAX 2050 MIN 45 AC-FT 109700 CFSM 1.20 IN. 16.32

e Estimated

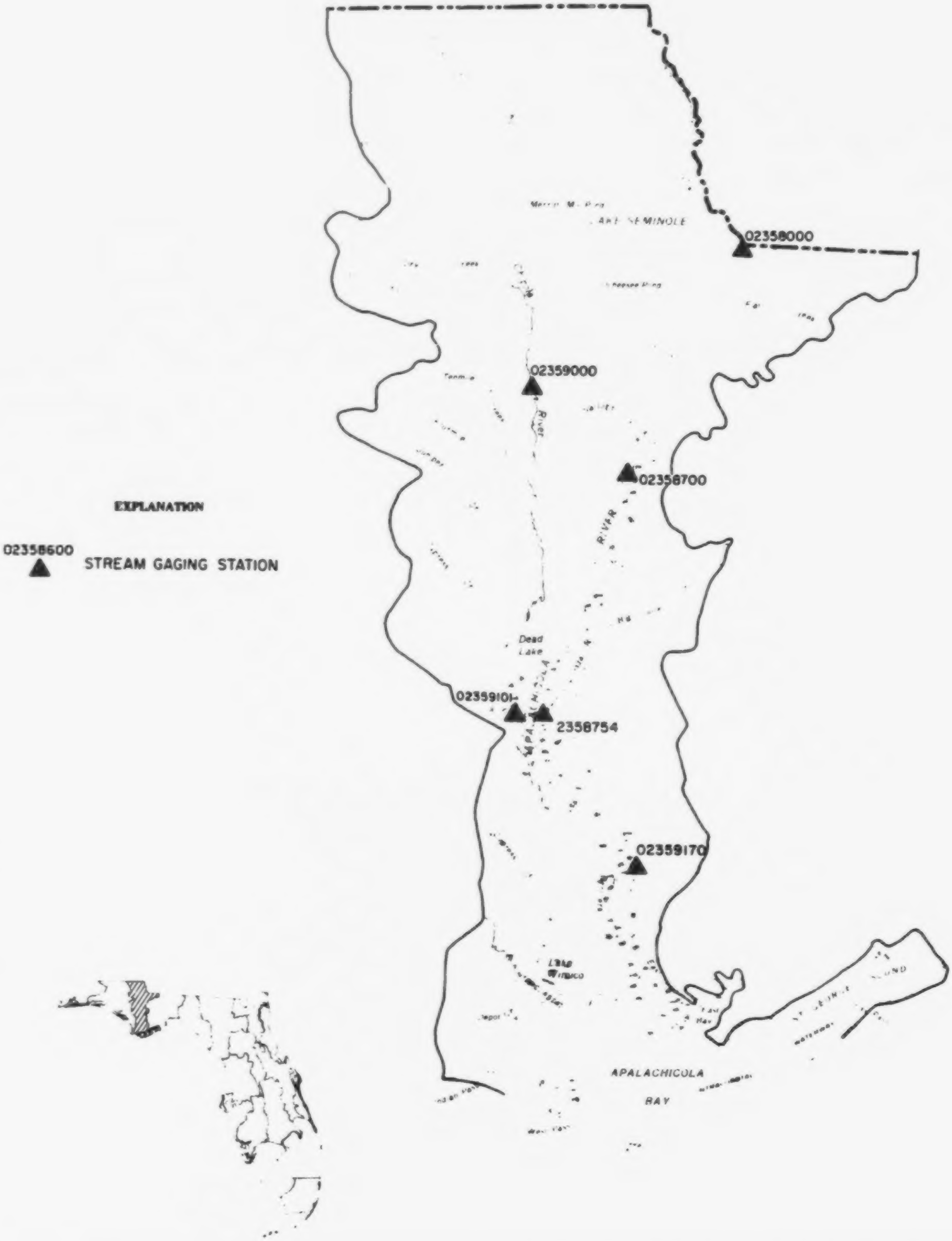
LAKE SEMINOLE
02358000
02359000
River
02358700
RIVER
Dead Lake
02359101
2358754
02359170
Lake Wimico
APALACHICOLA BAY
SOUND
EXPLANATION
02358600
STREAM GAGING STATION

Figure 20.–Location of stream gaging stations in the Apalachicola River basin.

02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE, FL
(National stream-quality accounting network station)

LOCATION.--Lat 30°42'03", long 84°51'33", in NW1/4 sec.32, T.4 N., R.6 W., Jackson County, Hydrologic Unit 03130011, on downstream side of right main pier on U.S. Highway 90, 0.6 mi downstream from Jim Woodruff Dam, 0.6 mi upstream from Mosquito Creek, 1.0 mi west of Chattahoochee, and 106 mi upstream from mouth.

DRAINAGE AREA.--17,200 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1304. Prior to October 1939, published as "near River Junction." Gage-height records collected at site 0.9 mi downstream October 1919 to September 1925, and at site approximately 100 ft downstream October 1925 to December 1958 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1906: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (National Weather Service bench mark). Prior to Dec. 16, 1939, water-stage recorder at site 0.9 mi downstream at datum 44.85 ft higher. Dec. 16, 1939 to June 25, 1952, water-stage recorder, June 26, 1952 to June 2, 1954, nonrecording gage, and June 3, 1954 to Oct. 14, 1958, water-stage recorder, at site approximately 100 ft downstream at datum 45.58 ft. Oct. 15, 1958 to Sept. 30, 1987, water-stage recorder at datum 40.58 ft.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Lake Seminole Reservoir (02357500) 0.6 mi upstream since Feb. 4, 1957, Walter F. George Lake (02343240) since 1962, Bartlett's Ferry Reservoir (02341000) since 1926, West Point Lake (02339400) since October 1974, and Lake Sidney Lanier Reservoir (02334400) since 1956.

AVERAGE DISCHARGE.--61 years, 22,039 ft³/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 293,000 ft³/s Mar. 20, 1929, gage height, 79.55 ft, extended above 193,000 ft³/s; minimum, 2,570 ft³/s Aug. 6, 1986; minimum gage height, 38.46 ft Aug. 31, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 59,700 ft³/s June 24, gage height, 58.68 ft; minimum, 7,780 ft³/s, Feb. 24; gage height, 40.92 ft, Aug. 29; minimum daily discharge, 9,140 ft³/s Feb. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10400	11000	11300	10400	11100	11600	21300	16300	12200	20700	19500	14400
2	10500	10900	11200	10200	10900	11400	19700	16300	11500	20300	18400	15100
3	11000	10600	11100	10400	10800	12100	19400	16400	11500	21100	17400	14300
4	11300	10400	11300	10400	10400	11900	19400	15900	11000	30500	16200	14200
5	11700	10200	11700	10400	10400	11900	20500	15900	10400	43300	15300	14300
6	11900	10100	11800	10500	10300	12700	25100	15900	10500	51400	15100	14400
7	12300	10100	11700	10600	10700	16100	29600	15600	10700	52000	15200	14300
8	12400	10100	11100	10500	10600	18400	40400	15500	11000	52200	15700	14400
9	12400	10600	10300	10700	10600	18700	42000	15600	21900	44000	15800	14600
10	12400	10400	9970	11800	10200	18700	41400	15700	20400	34500	15300	14500
11	12900	11100	9970	12000	9480	18600	43500	15500	15800	30000	15300	14500
12	12500	11200	10200	12800	9460	17000	51000	15100	14300	29500	15200	14400
13	11800	11200	10200	13600	9540	14400	52200	14400	18200	29100	15100	14200
14	11000	11300	10100	13900	10900	14600	46800	14100	16300	28100	15000	14500
15	11000	11300	10100	13700	11900	14400	43600	14100	14900	23800	15100	14200
16	11000	11700	10100	12900	10500	14400	42000	14000	16600	17800	15100	14100
17	11000	12000	10200	11700	9140	13200	37600	14400	22700	22100	15600	14100
18	11000	12100	10000	11200	9470	13100	32800	15200	27100	32100	15800	14200
19	11000	11600	10000	11900	10100	13000	29400	14900	27400	36700	17400	14300
20	11000	11000	9990	11500	10200	12900	25900	14600	29400	37800	16300	14300
21	11000	10900	10100	11200	10300	13100	24800	14600	45800	40000	16200	14200
22	10900	10900	10300	11100	10000	15400	23500	14400	56000	47600	16000	14200
23	11000	11100	10200	11100	9290	19300	21300	14500	58400	47000	15500	14200
24	11000	11300	10300	11200	9150	22200	19400	14500	59200	38300	15100	14200
25	11000	11200	10200	11200	9820	26200	16200	13300	53600	32000	15100	14100
26	10900	11300	10300	11200	11200	31100	15500	12300	38700	32100	15200	14000
27	11000	11300	10600	11200	12900	31100	15900	12400	34300	40000	15100	13800
28	10900	11300	10600	11100	12500	25900	16400	12800	28900	34900	15000	13900
29	11000	11200	10400	11000	---	22300	16300	11800	23000	27900	14500	14000
30	10900	11300	10500	11000	---	22100	16200	12300	20800	22900	14300	14100
31	11000	---	10500	11100	---	22200	---	12800	---	20000	14400	---
TOTAL	351100	330700	326330	353500	291850	540000	869100	451100	752500	1039700	486200	428000
MEAN	11330	11020	10530	11400	10420	17420	28970	14550	25080	33540	15680	14270
MAX	12900	12100	11800	13900	12900	31100	52200	16400	59200	52200	19500	15100
MIN	10400	10100	9970	10200	9140	11400	15500	11800	10400	17800	14300	13800
CFSM	.66	.64	.61	.66	.61	1.01	1.68	.85	1.46	1.95	.91	.83
IN.	.76	.72	.71	.76	.63	1.17	1.88	.98	1.63	2.25	1.05	.93
AC-FT	696400	655900	647300	701200	578900	1071000	1724000	894800	1493000	2062000	964400	848900

CAL YR 1988 TOTAL 5030620 MEAN 13740 MAX 43100 MIN 4430 CFSM .80 IN 10.88 AC-FT 9978000
WTR YR 1989 TOTAL 6220080 MEAN 17040 MAX 59200 MIN 9140 CFSM .99 IN 13.45 AC-FT 12340000

02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE, FL--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42.25	42.53	42.67	42.23	42.59	42.82	47.28	45.14	43.12	47.00	46.54	44.21
2	42.29	42.46	42.63	42.13	42.50	42.73	46.60	45.15	42.80	46.86	46.07	44.57
3	42.52	42.35	42.57	42.21	42.43	43.09	46.50	45.20	42.78	47.18	45.65	44.17
4	42.70	42.21	42.68	42.24	42.23	42.99	46.48	44.97	42.52	51.03	45.10	44.14
5	42.89	42.12	42.86	42.25	42.22	42.97	46.94	44.96	42.23	54.78	44.65	44.18
6	42.99	42.08	42.93	42.29	42.19	43.40	48.84	44.94	42.30	56.77	44.56	44.22
7	43.18	42.07	42.86	42.31	42.40	45.00	50.68	44.83	42.37	56.92	44.61	44.20
8	43.22	42.10	42.56	42.26	42.31	46.05	54.05	44.76	42.55	56.97	44.84	44.25
9	43.23	42.31	42.17	42.38	42.31	46.18	54.48	44.81	47.50	54.95	44.92	44.32
10	43.24	42.21	42.01	42.92	42.13	46.19	54.31	44.86	46.91	52.45	44.66	44.30
11	43.50	42.58	42.01	43.02	41.77	46.16	54.86	44.74	44.92	50.93	44.66	44.27
12	43.28	42.63	42.11	43.41	41.76	45.40	56.67	44.57	44.18	50.70	44.62	44.24
13	42.93	42.64	42.11	43.84	41.80	44.23	56.97	44.22	45.99	50.51	44.57	44.15
14	42.51	42.66	42.10	43.97	42.46	44.34	55.67	44.09	45.16	50.04	44.54	44.27
15	42.55	42.66	42.08	43.89	42.97	44.25	54.87	44.07	44.49	48.30	44.56	44.15
16	42.55	42.87	42.08	43.48	42.29	44.23	54.48	44.02	45.26	45.79	44.58	44.10
17	42.54	43.05	42.11	42.87	41.60	43.62	53.32	44.25	47.83	47.60	44.81	44.09
18	42.54	43.07	42.04	42.63	41.76	43.57	51.99	44.64	49.63	51.71	44.93	44.15
19	42.53	42.81	42.04	42.99	42.10	43.54	50.64	44.49	49.78	53.09	45.65	44.19
20	42.54	42.51	42.02	42.79	42.12	43.50	49.16	44.34	50.58	53.38	45.15	44.19
21	42.55	42.48	42.07	42.61	42.20	43.60	48.72	44.34	55.40	53.94	45.10	44.12
22	42.46	42.49	42.18	42.59	42.03	44.69	48.19	44.23	57.84	55.86	45.00	44.11
23	42.51	42.57	42.15	42.60	41.67	46.42	47.27	44.29	58.39	55.71	44.75	44.15
24	42.50	42.68	42.16	42.61	41.60	47.64	46.47	44.28	58.57	53.49	44.58	44.12
25	42.51	42.65	42.11	42.62	41.94	49.26	45.07	43.69	57.28	51.78	44.55	44.07
26	42.50	42.67	42.17	42.63	42.63	51.39	44.78	43.19	53.60	51.76	44.60	44.05
27	42.51	42.67	42.35	42.61	43.47	51.42	44.94	43.23	52.45	53.95	44.57	43.92
28	42.50	42.67	42.31	42.57	43.29	49.18	45.20	43.42	50.42	52.58	44.53	43.99
29	42.53	42.65	42.24	42.52	---	47.69	45.16	42.95	47.96	50.01	44.30	44.04
30	42.47	42.67	42.28	42.55	---	47.60	45.11	43.17	47.08	47.91	44.18	44.06
31	42.52	---	42.29	42.57	---	47.65	---	43.41	---	46.74	44.23	---
TOTAL	1323.54	1276.12	1310.95	1324.59	1182.77	1410.80	1495.70	1373.25	1441.89	1600.69	1390.06	1324.99
MEAN	42.69	42.54	42.29	42.73	42.24	45.51	49.86	44.30	48.06	51.64	44.84	44.17
MAX	43.50	43.07	42.93	43.97	43.47	51.42	56.97	45.20	58.57	56.97	46.54	44.57
MIN	42.25	42.07	42.01	42.13	41.60	42.73	44.78	42.95	42.23	45.79	44.18	43.92

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CAL YR 1988  TOTAL  16009.17   MEAN 43.74   MAX 54.75   MIN 39.27
WTR YR 1989  TOTAL  16455.35   MEAN 45.08   MAX 58.57   MIN 41.60
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02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE, FL--Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
DEC 08...	1630	10800	119	7.70	15.0	3.9	9.6	94	K9	K8	32
MAR 14...	1000	14700	118	7.90	16.0	6.8	10.8	109	K5	65	35
JUN 05...	1400	10700	121	7.90	25.5	3.5	6.5	79	<400	<670	45
AUG 29...	1545	14200	112	7.70	30.0	2.0	7.6	100	33	220	43

DATE	HARDNESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKALINITY LAB (MG/L AS CACO3)	ALKALINITY WAT.DIS FIELD INC.T. (MG/L CACO3)
DEC 08...	0	0	10	1.7	11	41	.9	2.4	39	33	32
MAR 14...	2	2	12	1.3	9.0	34	.7	1.7	37	33	30
JUN 05...	2	2	16	1.3	6.6	23	.4	1.5	51	43	42
AUG 29...	0	0	15	1.3	5.4	21	.4	1.6	50	42	41

DATE	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
DEC 08...	1.3	14	7.4	.10	6.2	84	73	.11	2450	<.010	.14
MAR 14...	.8	13	7.3	.10	6.8	76	71	.10	3020	<.010	.34
JUN 05...	1.0	7.0	5.1	.10	5.5	77	69	.10	2220	.020	.19
AUG 29...	1.6	6.0	4.3	.20	8.6	65	68	.09	2490	<.010	.15

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NH4, WATER, DIS., (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)
DEC 08...	.010	.020	.03	--	.39	.40	.020	<.010	<.010	--
MAR 14...	.020	<.010	--	--	.28	.30	.030	<.010	.010	.03
JUN 05...	.070	.080	.10	.07	.33	.40	.020	<.010	<.010	--
AUG 29...	.030	.040	.05	--	.27	.30	.030	<.010	<.010	--

DATE	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
DEC 08...	10	<1	18	<.5	<1	<1	<3	<1	36	<5
MAR 14...	50	1	22	<.5	2	<1	<3	<1	160	<5
JUN 05...	<10	<1	18	<.5	<1	<1	<3	<1	24	<1
AUG 29...	<10	<1	16	<.5	<1	<1	<3	<1	14	<1

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
DEC										
08...	<4	1	<.1	<10	2	<1	1	35	<6	<3
MAR										
14...	<4	5	<.1	<10	4	<1	<1	26	<6	11
JUN										
05...	<4	4	.7	<10	<1	<1	<1	34	<6	<3
AUG										
29...	<4	2	<.1	<10	1	<1	<1	33	<6	<3

DATE	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC										
08...	--	--	--	--	--	--	--	3	87	33
MAR										
14...	--	--	--	--	--	--	--	9	357	67
JUN										
05...	<.4	<.4	2.6	.9	2.0	.7	.04	7	202	94
AUG										
29...	--	--	--	--	--	--	--	6	230	83

02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE, FL--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM STAGE (FT ABOVE DATUM)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT							
28...	1530	42.48	633	10900	7	206	--
28...	1535	42.48	633	10900	7	206	--
28...	1540	42.48	557	10900	5	147	--
28...	1545	42.48	557	10900	7	206	--
28...	1600	42.47	485	10900	2	59	--
28...	1615	42.59	485	11000	3	89	--
28...	1620	42.60	372	11000	5	149	--
28...	1625	42.60	372	11000	3	89	--
28...	1630	42.60	215	11000	7	208	--
28...	1635	42.60	215	11000	4	119	--
DEC							
08...	1350	42.51	633	10900	7	206	--
08...	1400	42.50	633	10900	7	206	--
08...	1415	42.48	559	10900	5	147	--
08...	1430	42.47	559	10900	9	265	--
08...	1445	42.46	501	10900	8	235	--
08...	1500	42.46	501	10900	5	147	--
08...	1515	42.45	391	10800	9	262	--
08...	1530	42.44	391	10800	9	262	--
08...	1545	42.45	241	10800	11	321	--
08...	1600	42.43	241	10800	8	233	--
08...	1630	42.44	--	10800	3	87	33
JAN							
20...	1330	42.73	310	11400	29	893	--
20...	1345	42.81	310	11600	24	752	--
20...	1400	42.80	436	11500	22	683	--
20...	1410	42.78	436	11500	21	652	--
20...	1415	42.76	517	11500	23	714	--
20...	1430	42.72	517	11400	24	739	--
20...	1440	42.72	569	11400	21	646	--
20...	1445	42.71	569	11400	31	954	--
20...	1500	42.69	647	11300	31	946	--
20...	1530	42.68	647	11300	32	976	--
FEB							
27...	1300	43.87	230	13700	10	370	--
27...	1315	43.66	230	13300	11	395	--
27...	1330	43.61	391	13200	13	463	--
27...	1340	43.59	391	13200	12	428	--
27...	1345	43.58	504	13100	11	389	--
27...	1350	43.58	504	13100	11	389	--
27...	1355	43.55	567	13100	11	389	--
27...	1400	43.54	567	13000	9	316	--
27...	1410	43.54	647	13000	13	456	--
27...	1415	43.53	647	13000	10	351	--
MAR							
14...	1000	44.36	--	14700	9	357	67
23...	1240	46.79	185	20100	12	651	--
23...	1245	46.79	185	20100	29	1570	--
23...	1250	46.79	313	20100	20	1090	--
23...	1255	46.82	313	20200	21	1150	--
23...	1300	46.82	466	20200	29	1580	--
23...	1305	46.82	466	20200	24	1310	--
23...	1315	46.82	561	20200	15	818	--
23...	1330	46.92	561	20400	16	881	--
23...	1345	46.92	645	20400	18	991	--
23...	1355	46.92	645	20400	20	1100	--
24...	1440	47.77	655	22500	30	1820	--
24...	1445	47.77	655	22500	29	1760	--
24...	1455	47.78	562	22500	28	1700	--
24...	1500	47.78	562	22500	27	1640	--
24...	1515	47.78	490	22500	33	2000	--
24...	1520	47.78	490	22500	32	1940	--
24...	1530	47.79	366	22600	17	1040	--
24...	1535	47.79	366	22600	36	2200	--
24...	1545	47.78	222	22500	18	1090	--
24...	1600	47.78	222	22500	24	1460	--
27...	1350	--	--	--	11	--	--

2358000 APALACHICOLA RIVER AT CHATTAHOOCHEE, FL--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM STAGE (FT ABOVE DATUM)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JUN							
05...	1400	42.36	241	10700	7	202	94
05...	1445	42.28	241	10500	8	227	88
05...	1450	42.28	381	10500	9	255	89
05...	1455	42.27	381	10500	6	170	100
05...	1500	42.27	501	10500	7	198	100
05...	1510	42.26	501	10500	6	170	100
05...	1515	42.26	559	10500	7	198	100
05...	1530	42.24	559	10400	9	253	89
05...	1540	42.24	633	10400	7	197	86
05...	1545	42.25	633	10400	13	365	54
15...	1530	44.46	640	14900	7	282	--
15...	1535	44.46	640	14900	8	322	--
15...	1540	44.46	542	14900	6	241	--
15...	1545	44.47	542	14900	8	322	--
15...	1550	44.47	463	14900	7	282	--
15...	1555	44.46	463	14900	7	282	--
15...	1600	44.46	350	14900	8	322	--
15...	1615	44.44	350	14800	4	160	--
15...	1630	44.45	104	14900	5	201	--
15...	1645	44.46	104	14900	6	241	--
18...	0940	49.70	176	27300	10	737	--
18...	0945	49.70	176	27300	8	590	--
18...	0950	49.71	324	27300	10	737	--
18...	0955	49.72	324	27400	11	814	--
18...	1000	49.74	448	27400	11	814	--
18...	1010	49.75	448	27400	12	888	--
18...	1015	49.75	551	27400	10	740	--
18...	1030	49.78	551	27500	13	965	--
18...	1045	49.80	652	27500	11	817	--
18...	1100	49.86	652	27700	11	823	--
19...	1145	49.90	176	27800	25	1880	--
19...	1150	49.90	176	27800	10	751	--
19...	1155	49.88	324	27700	10	748	--
19...	1200	49.88	324	27700	12	897	--
19...	1210	49.88	448	27700	10	748	--
19...	1215	49.89	448	27700	7	524	--
19...	1220	49.88	551	27700	9	673	--
19...	1230	49.87	551	27700	11	823	--
19...	1245	49.83	652	27600	9	671	--
19...	1250	49.83	652	27600	10	745	--
20...	1515	51.01	163	30200	16	1300	--
20...	1525	51.01	163	30200	14	1140	--
20...	1530	51.02	318	30200	11	897	--
20...	1535	51.06	318	30200	12	978	--
20...	1540	51.09	457	30300	14	1150	--
20...	1550	51.09	457	30300	13	1060	--
20...	1555	51.07	558	30200	13	1060	--
20...	1600	51.05	558	30200	9	734	--
20...	1615	51.03	666	30200	15	1220	--
20...	1620	51.03	666	30200	12	978	--
21...	1230	55.23	406	45000	9	1090	100
21...	1300	55.31	406	45300	11	1350	91
21...	1350	55.32	529	45400	11	1350	91
21...	1400	55.33	529	45400	11	1350	91
21...	1410	55.31	655	45300	13	1590	100
21...	1430	55.30	655	45300	13	1590	100
21...	1435	55.30	792	45300	10	1220	100
21...	1440	55.31	792	45300	8	978	88
21...	1445	55.31	911	45300	8	978	100
21...	1500	55.29	911	45300	5	612	100
24...	1500	58.62	450	59400	9	1440	--
24...	1515	58.57	450	59200	9	1440	--
24...	1530	58.65	655	59600	12	1930	--
24...	1540	58.63	655	59500	14	2250	--
24...	1545	58.61	771	59400	16	2570	--
24...	1550	58.63	771	59500	8	1290	--
24...	1555	58.65	868	59600	12	1930	--
24...	1557	58.67	868	59700	13	2100	--
24...	1600	58.68	983	59700	9	1450	--
24...	1610	58.60	983	59400	9	1440	--
25...	1525	--	--	--	8	--	87
26...	1115	53.59	406	38600	6	625	--
26...	1135	53.54	406	38500	6	624	--

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM STAGE (FT ABOVE DATUM)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JUN							
26...	1200	53.53	529	38400	15	1560	--
26...	1215	53.52	529	38300	7	724	--
26...	1220	53.50	655	38200	11	1130	--
26...	1230	53.47	655	38100	9	926	--
26...	1240	53.44	792	38000	9	923	--
26...	1245	53.42	792	37900	7	716	--
26...	1250	53.41	911	37900	7	716	--
26...	1255	53.40	911	37900	6	614	--
27...	1520	52.34	163	33900	11	1010	--
27...	1525	52.34	163	33900	5	458	--
27...	1530	52.35	318	34000	8	734	--
27...	1535	52.35	318	34000	8	734	--
27...	1540	52.36	457	34000	9	826	--
27...	1545	52.36	457	34000	10	918	--
27...	1550	52.37	558	34000	13	1190	--
27...	1555	52.38	558	34000	11	1010	--
27...	1600	52.39	666	34100	17	1570	--
27...	1615	52.34	666	33900	10	915	--
AUG							
29...	1545	44.14	--	14200	6	230	83
SEP							
28...	1430	--	289	--	--	--	0
28...	1545	--	461	--	--	--	0
28...	1700	--	587	--	--	--	0

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	TIME	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
APR , 1989									
20...	1145	--	29	40	49	54	76	93	100
20...	1430	--	20	39	52	64	81	98	100
20...	1700	--	5	12	18	32	56	89	100
JUL									
18...	1400	--	1	12	17	31	56	89	98
18...	1530	--	13	29	42	68	84	90	98
18...	1630	--	4	7	9	14	25	66	93
SEP									
28...	1430	289	13	30	43	62	82	94	97
28...	1545	461	15	23	30	43	77	100	100
28...	1700	587	26	52	63	79	98	100	100

02358700 APALACHICOLA RIVER NEAR BLOUNTSTOWN, FL

LOCATION.--Lat 30°25'30", long 85°01'53", in NE¼ sec.3, T.1 S., R.8 W., Calhoun County, Hydrologic Unit 03130011, on right bank 500 ft upstream from Neal Lumber Company Landing at McNeal, 0.5 mi upstream from Old River cutoff, 1.5 mi southeast of Blountstown, and 78 mi upstream from mouth.

DRAINAGE AREA.--17,600 mi, approximately.

PERIOD OF RECORD.--January 1920 to September 1957 gage-height records collected in this vicinity by the National Weather Service are in the files of the Geological Survey. Miscellaneous discharge measurements from some periods August 1938 to August 1957 are in files of the U.S. Army Corps of Engineers, Mobile, Alabama District. October 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 26.96 ft above National Geodetic Vertical Datum of 1929 (National Weather Service bench mark). Prior to Sept. 17, 1921, nonrecording gage near present site at different datum. Sept. 17, 1921 to Aug. 28, 1957, nonrecording gage at several sites within 500 ft of present site at present datum. Since Aug. 26, 1960, auxiliary nonrecording gage at site 2.2 mi upstream at bridge on State Highway 20, at present datum.

REMARKS.--Records good.

COOPERATION.--Records from October 1957 to current year, were collected and computed by the U.S. Army Corps of Engineers and were reviewed by the Geological Survey.

AVERAGE DISCHARGE.--32 years, 23,220 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 172,000 ft^3/s Jan. 29, 1978, gage height, 24.75 ft; minimum daily, 4,680 ft^3/s (estimated) Aug. 3. 1986; minimum daily gage height, 0.02 ft Aug. 18, 1986.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1920, 28.6 ft present datum, Mar. 21, 1929, discharge not determined, from National Weather Service records.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 54,400 ft^3/s June 24; minimum daily, 8,950 ft^3/s, Feb. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11300	12400	12500	11200	11200	11500	20800	14700	12200	21800	20900	14400
2	11300	12600	12500	11100	11100	10700	18900	14700	11600	21400	19900	14800
3	11800	12300	12300	11000	11000	11400	18000	14900	11400	21600	18400	14800
4	12300	12100	12300	11000	10800	11400	17900	15000	11400	26800	17500	14300
5	12600	e12600	12500	11000	10600	11100	18100	14400	10900	36900	15800	14400
6	12600	e12600	12800	11000	10600	11300	21100	14800	10800	44300	15400	14600
7	13000	e12700	12800	11100	10700	12600	25700	14600	11100	47400	15200	14600
8	13100	e11500	12500	11000	10900	16000	32400	14400	11900	48500	15500	14600
9	13200	e12000	11700	11000	10600	17000	36800	14300	20500	46700	16100	14800
10	13200	e12700	11400	11600	10500	17300	37500	14400	25600	40600	15400	15000
11	13400	e12700	11300	12100	9730	17300	38200	14600	19800	34400	15400	15000
12	13900	e12800	11500	12300	9510	17000	40800	14300	15600	32100	15200	15000
13	13100	e12800	11400	13200	9560	13800	44200	13900	17900	31100	15100	14800
14	12300	e12500	11300	14000	9760	13400	43900	13500	17500	30000	15000	14900
15	12100	12800	11300	13900	11000	13300	42000	13300	15900	27700	15000	14900
16	12200	12800	11200	13600	11100	13300	40500	13300	15800	21400	15000	14900
17	12200	13300	11200	12600	9460	12700	37900	13200	22300	20700	15200	14800
18	12200	13400	11100	11400	8950	12100	34600	13900	26800	28700	15500	14900
19	12200	13400	10900	11700	9700	11900	31100	14200	29300	34800	16600	15100
20	12200	12800	11000	11800	9800	11900	27300	13900	29300	38500	16500	15200
21	12200	12600	10800	11500	10300	11900	24500	13800	39000	39000	16100	15200
22	12200	12500	11100	11300	10700	12900	23100	13900	47900	43200	16100	15100
23	12200	12400	11100	11300	9890	16700	21000	13800	52200	45200	15500	15200
24	12200	12600	11100	11300	9490	20000	18900	14400	54400	42500	15000	15400
25	12200	12600	11100	11300	9460	23100	16300	13500	53200	37100	14800	15500
26	12200	12600	11000	11300	9810	27800	14300	12700	46100	34500	14900	15600
27	12300	12600	11200	11300	11600	30600	13800	11900	39700	37200	15000	15400
28	12300	12600	11300	11200	11800	28100	14300	12300	34600	37800	14800	15300
29	12300	12600	11300	11200	---	23100	14500	11900	28100	32600	14700	15500
30	12400	12500	11200	11100	---	21500	14500	11600	23500	27300	14100	15600
31	12400	---	11200	11200	---	21100	---	12000	---	22700	14200	---
TOTAL	385100	378400	357900	361600	289620	503800	802900	426100	766300	1054500	489800	449600
MEAN	12420	12610	11550	11660	10340	16250	26760	13750	25540	34020	15800	14990
MAX	13900	13400	12800	14000	11800	30600	44200	15000	54400	48500	20900	15600
MIN	11300	11500	10800	11000	8950	10700	13800	11600	10800	20700	14100	14300
AC-FT	763800	750600	709900	717200	574500	999300	1593000	845200	1520000	2092000	971500	891800
CFSM	.71	.72	.66	.66	.59	.92	1.52	.78	1.45	1.93	.90	.85
IN.	.81	.80	.76	.76	.61	1.06	1.70	.90	1.62	2.23	1.04	.95

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CAL YR 1988   TOTAL 5190420  MEAN 14180  MAX 38300  MIN 5450  AC-FT 10300000  CFSM .81  IN. 10.97
WTR YR 1989   TOTAL 6265620  MEAN 17170  MAX 54400  MIN 8950  AC-FT 12430000  CFSM .98  IN. 13.24
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e Estimated

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.80	4.04	4.10	3.65	4.01	4.53	9.47	7.04	5.00	9.51	9.16	6.17
2	3.75	4.10	4.08	3.62	4.00	4.00	8.71	7.03	4.56	9.34	8.74	6.33
3	4.05	3.94	4.01	3.56	3.92	4.46	8.32	7.10	4.41	9.42	8.14	6.30
4	4.33	3.78	3.99	3.57	3.80	4.45	8.32	7.16	4.40	11.37	7.72	6.06
5	4.48	---	4.17	3.59	3.72	4.31	8.40	6.80	4.08	14.60	7.02	6.06
6	4.48	---	4.31	3.60	3.70	4.40	9.68	6.99	3.98	16.49	6.78	6.11
7	4.67	---	4.34	3.65	3.76	5.23	11.41	6.90	4.16	17.20	6.72	6.08
8	4.74	---	4.20	3.65	3.91	7.05	13.78	6.75	4.66	17.44	6.85	6.10
9	4.80	---	3.74	3.66	3.75	7.47	15.07	6.70	8.72	17.04	7.12	6.17
10	4.78	---	3.56	4.00	3.67	7.61	15.30	6.73	10.64	15.60	6.81	6.20
11	4.85	---	3.50	4.34	3.21	7.65	15.50	6.77	8.46	13.92	6.78	6.17
12	5.13	---	3.59	4.50	3.08	7.52	16.20	6.64	6.57	13.20	6.69	6.16
13	4.65	---	3.54	5.01	3.12	6.02	17.03	6.39	7.58	12.88	6.63	6.02
14	4.19	---	3.52	5.48	3.26	5.77	16.99	6.16	7.37	12.51	6.58	6.06
15	4.07	4.08	3.50	5.42	4.03	5.74	16.56	6.02	6.65	11.69	6.62	6.00
16	4.08	4.11	3.45	5.29	4.11	5.76	16.18	5.99	6.59	9.35	6.59	5.99
17	4.07	4.40	3.47	4.70	3.10	5.42	15.53	5.88	9.24	9.08	6.69	5.90
18	4.05	4.50	3.46	4.00	2.79	5.07	14.64	6.29	10.88	12.04	6.84	5.91
19	4.04	4.48	3.35	4.19	3.27	4.99	13.57	6.40	11.78	14.04	7.37	6.00
20	4.03	4.13	3.38	4.29	3.34	4.98	12.25	6.25	11.74	15.04	7.32	6.02
21	4.05	4.04	3.30	4.10	3.65	5.00	11.24	6.17	14.64	15.19	7.12	6.00
22	4.00	3.99	3.47	4.01	3.94	5.62	10.72	6.17	16.76	16.24	7.11	5.91
23	4.00	3.97	3.51	3.99	3.44	7.55	9.95	6.12	17.76	16.69	6.87	5.93
24	4.00	4.05	3.51	4.00	3.20	9.01	9.12	6.39	18.20	16.08	6.61	5.98
25	4.01	4.09	3.51	4.00	3.19	10.21	7.98	5.93	18.25	14.66	6.52	6.01
26	4.00	4.07	3.49	4.02	3.42	11.95	7.00	5.39	16.90	13.95	6.56	6.02
27	3.99	4.08	3.60	4.02	4.52	12.97	6.69	4.90	15.36	14.70	6.60	5.90
28	4.00	4.13	3.70	3.99	4.67	12.08	6.93	5.11	13.98	14.86	6.52	5.83
29	4.01	4.12	3.67	3.99	---	10.30	7.02	4.86	11.82	13.37	6.44	5.88
30	4.07	4.10	3.62	3.94	---	9.70	7.01	4.67	10.16	11.55	6.10	5.90
31	4.01	---	3.65	4.02	---	9.58	---	4.90	---	9.87	6.09	---
TOTAL	131.18	---	114.29	127.85	101.58	216.40	346.57	192.60	295.30	418.92	215.71	181.17
MEAN	4.23	---	3.69	4.12	3.63	6.98	11.55	6.21	9.84	13.51	6.96	6.04
MAX	5.13	---	4.34	5.48	4.67	12.97	17.03	7.16	18.25	17.44	9.16	6.33
MIN	3.75	---	3.30	3.56	2.79	4.00	6.69	4.67	3.98	9.08	6.09	5.83

02358754 APALACHICOLA RIVER NEAR WEWAHITCHKA, FL

LOCATION.--Lat 30°08'02", long 85°08'39", NE1/4 sec.16, T.45, R.9 W., Gulf County, Hydrologic Unit 03130011, on right bank at George C. Gaskins State Park, 3.7 mi northeast of Wewahitchka and 44.2 mi upstream from mouth.

DRAINAGE AREA.--17,800 mi^2, approximately.

PERIOD OF RECORD.--January 1950 to February 1954, August 1955 to September 1980, October 1980 to September 1987, October 1988 to September 1989. Prior to October 1979, discharge records are available in files of the U.S. Army Corps of Engineers, Mobile, Alabama District.

GAGE.--Water-stage recorder. Datum of gage is 12.136 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Water-stage recorder January 17, 1950, to February 8, 1954, and August 2, 1955, to August 17, 1955, at site 200 ft downstream of present location at datum 3.405 ft higher. Water stage recorder August 17, 1955, to October 18, 1955, at site 200 ft downstream of present location at datum 1.278 ft higher. Water-stage recorder October 18, 1955, to August 30, 1979, at site 200 ft downstream at present datum. Since August 1979, at present site and datum.

REMARKS.--Records good.

COOPERATION.--Records from October 1957, to current year, were collected and computed by U.S. Army Corps of Engineers and were reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 137,000 ft^3/s Jan. 31, 1978, gage height 14.75 ft; minimum 4,590 ft^3/s, Nov. 5, 1981; minimum gage height, -1.56 ft Nov. 5, 1981, Aug. 5, 1986.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1929, reached a stage of 19.20 ft (from flood profile by U.S. Army Corps of Engineers).

EXTREMES FOR 1986 WATER YEAR.--Maximum discharge, 54,500 ft^3/s June 26, gage height 11.32 ft; minimum discharge, 9,440 ft^3/s Feb. 19, gage height, 1.09 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10800	10800	11200	10300	10700	e10600	21300	16100	e12200	28600	e35000	15200
2	10700	10800	11100	10300	10700	e11100	20300	16100	e12000	25700	e30000	15200
3	10800	10700	11100	10200	10600	e11500	19500	16100	e11600	24200	e25000	15300
4	11300	10600	11000	10200	10500	11700	18800	16100	e11200	23800	e22000	15100
5	11700	10600	11000	10300	10300	11700	18500	15900	e10800	26300	e20000	14900
6	12000	10600	11100	10300	10200	11700	18700	15700	e10400	30700	e19000	14900
7	12100	10400	11300	10400	10200	12100	19900	15600	10200	35700	e18500	14800
8	12200	10300	11300	10500	10400	13700	22100	15400	10700	41900	e18000	14700
9	12200	10200	11000	10500	10400	15300	25600	15200	12800	45900	e17600	14700
10	12200	10300	10600	10600	10300	16100	29200	15200	18500	46700	e17300	14700
11	12200	10400	10400	11000	10200	16500	32100	15100	20500	43100	e17000	14600
12	12300	10600	10300	11300	9900	16600	34200	14900	19800	37300	e16800	14500
13	12200	10800	10400	11700	9640	15900	36100	14600	18700	33900	e16700	14300
14	11700	10900	10400	12300	9530	14700	39900	14100	19000	31800	e16600	14200
15	11200	11000	10300	12700	10000	14100	43200	13700	18700	30400	e16500	14200
16	10900	11000	10300	12800	10700	13900	43900	13500	18500	28300	e16400	14200
17	10800	11200	10200	12500	10500	13700	42400	13300	19800	24700	e16300	14100
18	10800	11500	10200	11900	9710	13200	40000	13400	22800	23500	e16200	14000
19	10700	11600	10100	11400	9480	12800	36500	13800	25200	25400	e16100	14100
20	10700	11500	10100	11400	9710	12600	33600	13800	26800	28100	e16300	14100
21	10600	11300	10000	11300	10100	12500	30400	13700	28200	e34000	e16500	14100
22	10600	11200	10000	11100	10600	13000	27500	e13500	31500	e38000	e16300	14000
23	10600	11100	10200	10900	10700	14800	25000	e13400	36000	e38600	e16200	13900
24	10600	11100	10300	10800	10300	17200	22500	e13200	43900	e40000	e16100	14000
25	10600	11200	10300	10800	9930	19000	20200	e13200	50500	e43500	e15900	14600
26	10500	11200	10300	10800	e9900	20800	18300	e13700	54200	e42500	e15800	15000
27	10500	11200	10300	10800	e9900	23500	16900	e13500	52200	e40000	e15600	14900
28	10600	11300	10500	10800	e10100	25700	16200	e13000	45900	e38000	e15500	14700
29	10600	11400	10400	10700	---	25900	16100	e12800	39300	e40000	e15400	14700
30	10700	11300	10400	10600	---	24200	16100	e12600	33200	e41000	15200	14800
31	10800	---	10300	10700	---	22500	---	e12400	---	e39000	15100	---
TOTAL	346200	328100	326400	341900	285200	488600	805000	442600	745100	1070600	560900	436500
MEAN	11170	10940	10530	11030	10190	15760	26830	14280	24840	34540	18090	14550
MAX	12300	11600	11300	12800	10700	25900	43900	16100	54200	46700	35000	15300
MIN	10500	10200	10000	10200	9480	10600	16100	12400	10200	23500	15100	13900
AC-FT	686700	650800	647400	678200	565700	969100	1597000	877900	1478000	2124000	1113000	865800
CFSM	.63	.61	.59	.62	.57	.89	1.51	.80	1.40	1.94	1.02	.82
IN.	.72	.69	.68	.71	.60	1.02	1.68	.92	1.56	2.24	1.17	.91

WTR YR 1989 TOTAL 6177100 MEAN 16920 MAX 54200 MIN 9480 AC-FT 12250000 CFSM .95 IN. 12.91

e Estimated

02359000 CHIPOLA RIVER NEAR ALTHA, FL

(National stream-quality accounting network station)

LOCATION.--Lat 30°32'02", long 85°09'55", in NW1/4 sec.32, T.2 N., R.9 W., Calhoun County, Hydrologic Unit 03130012, near center of span on downstream side of bridge on State Highway 274, 0.9 mi downstream from Holliman Branch, 3.5 mi southwest of Altha, and 54 mi upstream from mouth.

DRAINAGE AREA.--781 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1912 to December 1913, September 1921 to September 1927, August 1929 to September 1931, March 1943 to current year. Monthly discharge only for some periods published in WSP 1304.

REVISED RECORDS.--WSP 1384: Drainage area. WSP 1504: 1924, 1925 (M), 1926.

GAGE.--Water-stage recorder. Datum of gage is 19.95 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Jan. 13, 1950, and Mar. 13, 1978 to Mar. 20, 1979, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--54 years (water years 1922-27, 1930-31, 1944-89), 1,488 ft^3/s, 25.87 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft^3/s Sept. 20, 1926, gage height, 33.55 ft, from flood marks, from rating curve extended above 12,800 ft^3/s on basis of slope-area measurement of peak flow; minimum, 330 ft^3/s Oct. 31, Nov. 1, 2, 1968; minimum gage height, 8.29 ft Nov. 13-15, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,860 ft^3/s June 14, gage height, 21.75 ft; minimum, 658 ft^3/s Feb. 19-21, gage height, 9.01 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	989	738	772	762	743	870	1280	1010	720	2990	2370	1120
2	964	728	764	844	756	889	1190	1330	701	2940	2150	1080
3	1160	720	756	873	761	998	1160	1210	691	3150	1990	1070
4	1330	715	746	913	759	1060	1140	1170	675	3330	1870	1100
5	1270	783	741	1050	743	1080	1200	1240	703	3460	1750	1140
6	1220	772	763	1170	737	1130	1280	1280	816	3700	1640	1140
7	1240	758	757	1150	761	1220	1230	1140	911	3640	1540	1120
8	1310	750	751	996	752	1320	1180	987	1220	3530	1520	1050
9	1200	763	743	901	733	1240	1180	948	3590	3390	1560	1000
10	1040	767	738	874	719	1090	1210	929	4530	3240	1570	973
11	967	748	774	869	715	1010	1270	921	4300	3000	1530	947
12	921	729	808	870	706	962	1290	906	4660	2760	1450	927
13	889	720	803	895	692	929	1300	871	5390	2570	1380	901
14	864	714	802	930	683	916	1300	844	5810	2360	1320	884
15	846	716	798	952	677	896	1420	819	5630	2250	1350	873
16	831	724	802	923	669	896	1460	794	5140	2290	1410	892
17	818	747	789	884	668	901	1340	773	5160	2350	1440	899
18	804	744	776	858	663	892	1220	753	5110	2360	1380	899
19	796	735	773	839	661	909	1160	742	4740	2480	1330	888
20	782	797	772	826	658	895	1120	738	4700	2670	1260	875
21	774	884	764	805	802	923	1070	770	5040	3170	1200	863
22	763	899	749	787	1000	1100	1020	788	5200	3710	1160	849
23	756	902	738	777	1010	1480	986	823	5230	4140	1150	845
24	756	920	733	766	996	1620	960	929	5110	4180	1120	840
25	756	979	729	761	1020	1600	932	975	4810	3940	1050	886
26	757	986	719	748	1070	1640	908	963	4360	3810	1050	948
27	739	922	715	741	1010	1700	886	928	3980	3670	1040	942
28	730	869	718	735	905	1690	859	880	3640	3420	1080	926
29	722	810	713	731	---	1550	839	815	3320	3210	1150	918
30	725	784	712	745	---	1470	831	768	3180	2980	1170	924
31	771	---	732	746	---	1400	---	739	---	2650	1070	---
TOTAL	28490	23823	23450	26721	22069	36276	34221	28783	109067	97340	44050	28719
MEAN	919	794	756	862	788	1170	1141	928	3636	3140	1421	957
MAX	1330	986	808	1170	1070	1700	1460	1330	5810	4180	2370	1140
MIN	722	714	712	731	658	870	831	738	675	2250	1040	840
CFSM	1.18	1.02	.97	1.10	1.01	1.50	1.46	1.19	4.66	4.02	1.82	1.23
IN.	1.36	1.13	1.12	1.27	1.05	1.73	1.63	1.37	5.19	4.64	2.10	1.37
AC-FT	56510	47250	46510	53000	43770	71950	67880	57090	216300	193100	87370	56960

CAL YR 1988 TOTAL 460223 MEAN 1257 MAX 4800 MIN 661 CFSM 1.61 IN 21.92 AC-FT 912900
WTR YR 1989 TOTAL 503009 MEAN 1378 MAX 5810 MIN 658 CFSM 1.76 IN 23.96 AC-FT 997700

02359000 CHIPOLA RIVER NEAR ALTHA, FL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1962 to June 1972, October 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUC-TANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
DEC 09...	1050	743	220	8.20	16.5	1.1	8.8	89	63	K15	110
MAR 15...	1015	896	205	8.20	20.5	3.2	7.8	86	77	39	99
JUN 29...	1340	3260	174	7.70	25.0	3.3	4.9	59	90	51	86
AUG 30...	1245	1180	216	8.20	25.0	1.8	7.2	87	100	220	110

DATE	HARD-NESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA-LINITY LAB (MG/L AS CACO3)	ALKA-LINITY WAT.DIS FIELD INC.T. (MG/L CACO3)
DEC 09...	7	7	35	5.0	3.2	6	.1	.60	119	101	98
MAR 15...	9	9	33	4.1	4.0	8	.2	.60	102	91	84
JUN 29...	9	9	29	3.2	2.5	6	.1	.90	87	77	71
AUG 30...	11	11	38	4.1	2.4	4	.1	.50	113	101	93

DATE	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
DEC 09...	1.2	2.7	5.3	.10	6.8	120	120	.16	241	<.010	.91
MAR 15...	1.1	2.9	7.2	.10	5.1	118	110	.16	285	<.010	.60
JUN 29...	3.0	<1.0	5.8	.10	6.3	98	--	.13	863	.020	.59
AUG 30...	1.2	<1.0	4.5	.10	6.7	115	--	.16	366	.010	1.1

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)
DEC 09...	<.010	.010	.01	--	--	.40	.020	.010	.010	.03	<10
MAR 15...	.020	<.010	--	--	.18	.20	.020	.010	.020	.06	20
JUN 29...	.040	.050	.06	.07	.36	.40	.020	.010	.020	.06	50
AUG 30...	.010	.020	.03	.03	--	<.20	.030	.010	.010	.03	20

02359000 CHIPOLA RIVER NEAR ALTHA, FL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
DEC 09...	<1	10	<.5	<2	<1	<3	<1	36	<5	<4	4
MAR 15...	<1	16	<.5	<1	<1	<3	<1	73	<5	4	5
JUN 29...	1	13	<.5	<1	<1	<3	<1	140	1	<4	16
AUG 30...	<1	10	<.5	<1	<1	<3	<1	32	<1	<4	7

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 09...	<.1	<10	<1	<1	<1	41	<6	<3	3	6.0	20
MAR 15...	<.1	<10	5	<1	<1	40	<6	<3	9	22	67
JUN 29...	<.1	<10	<1	<1	<1	34	<6	11	--	--	--
AUG 30...	<.1	<10	1	<1	<1	40	<6	<3	7	22	86

02359101 CHIPOLA RIVER AT DEAD LAKE OUTLET NEAR WEWAHITCHKA, FL

LOCATION.--Lat 30°07'38", long 85°10'39", in NE¼ sec.19, T.4 S., R.9 W., Gulf County, Hydrologic Unit 03130012 on upstream side of bridge on county road 22A, 1.7 mi northeast of Wewahitchka.

DRAINAGE AREA.--1206 mi^2.

PERIOD OF RECORD.--November 1979 to September 1984 (gage heights and discharge measurements only), February 1988 to current year (gage height only).

GAGE.--Water-stage recorder. Datum of gage is National Vertical Datum of 1929 (Florida Department of Transportation bench mark).

REMARKS.--Sheet pile dam 50 feet downstream removed December 1987.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 23.38 ft Apr. 4, 1980; minimum, 10.76 ft Aug. 30, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum gage height 21.41 ft, June 26, 27; minimum, 11.96 ft, Feb. 20.

GAGE HEIGHT (FEET ABOVE DATUM) WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.73	12.93	13.21	12.50	12.59	13.26	17.96	15.57	13.42	20.15	19.60	15.70
2	13.60	12.94	13.11	12.50	12.60	13.29	17.69	15.60	13.39	19.75	19.11	15.64
3	13.62	12.91	13.02	12.49	12.59	13.25	17.38	15.69	13.24	19.40	18.58	15.61
4	13.84	12.84	12.94	12.50	12.57	13.32	17.08	15.73	13.08	19.23	18.06	15.56
5	14.11	12.95	12.89	12.51	12.50	13.43	16.90	15.71	12.97	19.40	17.57	15.43
6	14.32	12.95	12.90	12.56	12.43	13.51	16.83	15.68	12.91	19.81	17.12	15.32
7	14.36	12.88	12.95	12.67	12.41	13.59	17.06	15.60	12.89	20.22	16.74	15.24
8	14.34	12.77	12.99	12.80	12.44	14.05	17.40	15.48	13.12	20.54	16.45	15.17
9	14.30	12.67	12.96	12.87	12.50	14.76	17.86	15.34	13.74	20.71	16.25	15.09
10	14.26	12.63	12.81	12.83	12.48	15.23	18.32	15.25	15.56	20.76	16.17	15.03
11	14.19	12.64	12.71	12.86	12.41	15.48	18.70	15.18	17.68	20.69	16.06	14.97
12	14.12	12.66	12.67	12.97	12.29	15.59	19.01	15.07	18.43	20.49	15.96	14.90
13	14.07	12.74	12.67	13.12	12.14	15.49	19.27	14.95	18.37	20.24	15.87	14.84
14	13.87	12.79	12.68	13.35	12.03	15.14	19.50	14.78	18.40	19.97	15.77	14.76
15	13.62	12.82	12.66	13.60	12.07	14.86	19.74	14.60	18.45	19.76	15.67	14.72
16	13.40	12.83	12.64	13.78	12.34	14.63	19.87	14.43	18.56	19.57	15.60	14.73
17	13.25	12.92	12.58	13.80	12.47	14.45	19.91	14.30	18.90	19.28	15.59	14.80
18	13.14	13.03	12.53	13.63	12.26	14.24	19.86	14.22	19.43	18.96	15.63	14.72
19	13.07	13.11	12.48	13.35	12.02	14.03	19.72	14.26	19.79	18.91	15.67	14.70
20	13.01	13.20	12.43	13.22	11.98	13.87	19.53	14.33	19.96	19.09	15.78	14.68
21	12.97	13.25	12.40	13.15	12.19	13.84	19.25	14.37	20.05	19.52	15.89	14.65
22	12.95	13.21	12.38	13.01	12.62	14.07	18.88	14.38	20.26	20.12	15.93	14.62
23	12.90	13.20	12.39	12.89	12.90	14.79	18.51	14.35	20.59	20.68	15.88	14.58
24	12.86	13.18	12.43	12.80	12.91	15.74	18.10	14.45	20.90	21.06	15.78	14.63
25	12.83	13.19	12.45	12.74	12.75	16.60	17.62	14.55	21.17	21.16	15.63	14.88
26	12.80	13.18	12.45	12.70	12.63	17.23	17.02	14.48	21.38	21.05	15.49	15.12
27	12.79	13.23	12.44	12.69	12.66	17.73	16.41	14.26	21.37	20.82	15.45	15.19
28	12.78	13.30	12.49	12.67	13.02	18.13	15.94	14.00	21.20	20.59	15.47	15.15
29	12.77	13.32	12.51	12.64	---	18.35	15.68	13.85	20.93	20.42	15.51	15.05
30	12.81	13.30	12.48	12.61	---	18.37	15.53	13.66	20.58	20.24	15.53	14.96
31	12.92	---	12.47	12.60	---	18.19	---	13.48	---	19.98	15.61	---
TOTAL	417.60	389.57	392.72	400.41	348.80	468.51	542.53	457.60	530.72	622.57	505.42	450.44
MEAN	13.47	12.99	12.67	12.92	12.46	15.11	18.08	14.76	17.69	20.08	16.30	15.01
MAX	14.36	13.32	13.21	13.80	13.02	18.37	19.91	15.73	21.38	21.16	19.60	15.70
MIN	12.77	12.63	12.38	12.49	11.98	13.25	15.53	13.48	12.89	18.91	15.45	14.58

WTR YR 1989 TOTAL 5526.89 MEAN 15.14 MAX 21.38 MIN 11.98

02359170 APALACHICOLA RIVER NEAR SUMATRA, FL

LOCATION.--Lat 29°56'57", Long 85°00'56", in SW1/4 sec.14, T.6 S., R.8 W., Franklin County, Hydrologic Unit 03130011, on left bank at Brickyard Landing, 2.4 mi west of Fort Gadsden, 5.3 mi southwest of Sumatra, and 20.6 mi upstream from mouth.

DRAINAGE AREA.--19,200 mi^2, approximately.

PERIOD OF RECORD.--September 1977 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Records fair. Discharges below 15,000 ft^3/s are tide affected.

AVERAGE DISCHARGE.--12 years, 25,820 ft^3/s (18.26 in/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 172,000 ft^3/s Feb. 2, 1978, gage height, 12.92 ft estimated from U.S. Army Corps of Engineers flood profile, extended above 103,000 ft^3/s; minimum daily, 5,800 ft^3/s Nov. 4, 5, 1981, estimated; minimum recorded gage height, 1.11 ft Dec. 5, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 60,200 ft^3/s, June 28, gage height, 8.30 ft; minimum daily, 9,380 ft^3/s, Feb. 15, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13300	11800	12100	10600	10700	11800	29200	20600	12100	47300	38900	16300
2	13300	11400	11400	10400	10600	12000	27600	19800	12200	41000	35900	16200
3	13000	11900	11200	10200	10500	12300	26200	19200	11700	36600	31600	16200
4	13400	12600	11200	9910	10400	12300	24800	18800	11400	34200	28200	16100
5	13700	12600	11200	9760	10400	12400	23500	18400	11300	32600	25400	16000
6	14000	12100	11400	10300	10400	12300	22300	18100	11500	33400	22700	15700
7	14400	11300	11600	10700	10500	12200	22100	17900	11700	35800	20700	15500
8	14200	10900	11900	10700	10300	12500	23400	17700	12700	39900	19400	15400
9	14400	10700	12100	10800	9810	13900	25600	17500	14000	44300	18400	15200
10	14600	10800	11500	10700	9730	15300	28300	17300	17500	48300	18000	15100
11	14600	10900	11100	10800	9810	16400	31100	17200	21600	51200	17700	15100
12	14600	10900	11000	11300	9550	17300	34300	17100	24000	51300	17400	15000
13	14400	11000	10400	11600	9430	17800	37400	17000	24500	48600	17200	14900
14	13900	11100	10200	11900	9450	17300	40100	16900	24200	44700	17000	14800
15	13200	11400	10600	12600	9380	16500	43300	16800	24300	41300	16800	14800
16	12600	12000	10700	12800	9810	15600	45900	16700	24900	39500	16600	14700
17	12300	12300	10100	12700	10300	14900	47400	16600	26000	37500	16400	14600
18	12000	12100	9680	12400	9890	14400	47800	16500	27100	33900	16300	14500
19	11700	12600	9860	11700	9380	13700	47100	16400	29100	32000	16500	14400
20	11900	13500	10200	11400	9630	13400	45300	16300	31200	31900	16900	14300
21	12100	12900	10200	11200	10700	13300	42500	16200	33700	33500	17500	14200
22	11900	12200	9940	10800	11100	13800	39200	16000	35500	37600	17800	14300
23	11800	11900	9990	10500	10400	15900	35800	15800	37800	43700	17600	14300
24	12000	11300	10200	10400	9980	17800	32600	15600	41500	47300	17300	14600
25	11400	11500	10100	10600	9730	19800	29700	15200	46700	49500	17000	16000
26	11200	12600	9860	10700	9650	22000	27400	14600	53100	51100	16700	17000
27	11600	13900	9890	10800	10300	24600	25500	13800	58000	50200	16700	16300
28	11600	14100	10300	10700	11700	27200	23900	13000	60000	47200	16600	15700
29	11400	12600	10400	10800	---	29400	22600	12600	58400	44600	16400	15300
30	11700	12300	10300	10700	---	30900	21500	12300	53800	43100	16500	15300
31	12100	---	10600	10600	---	30800	---	12100	---	41400	16400	---
TOTAL	398300	359200	331220	341070	283530	529800	973400	510000	861500	1294500	614500	457800
MEAN	12850	11970	10680	11000	10130	17090	32450	16450	28720	41760	19820	15260
MAX	14600	14100	12100	12800	11700	30900	47800	20600	60000	51300	38900	17000
MIN	11200	10700	9680	9760	9380	11800	21500	12100	11300	31900	16300	14200
CFSM	.67	.62	.56	.57	.53	.89	1.69	.86	1.50	2.18	1.03	.80
IN.	.77	.70	.64	.66	.55	1.03	1.89	.99	1.67	2.51	1.19	.89
AC-FT	790000	712500	657000	676500	562400	1051000	1931000	1012000	1709000	2568000	1219000	908000

CAL YR 1988 TOTAL 6741100 MEAN 18420 MAX 45800 MIN 6710 CFSM .96 IN 13.06 AC-FT 13370000

WTR YR 1989 TOTAL 6954820 MEAN 19050 MAX 60000 MIN 9380 CFSM .99 IN 13.47 AC-FT 13790000

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.95	3.59	3.66	3.37	3.38	3.80	6.61	---	3.88	7.63	7.20	5.13
2	3.95	3.49	3.49	3.27	3.36	3.86	6.48	---	3.92	7.32	7.03	5.12
3	3.87	3.63	3.44	3.21	3.32	3.95	6.37	---	3.76	7.08	6.77	5.10
4	3.96	3.78	3.45	3.10	3.30	3.96	6.25	---	3.65	6.94	6.53	5.11
5	4.03	3.80	3.44	3.04	3.28	3.99	6.14	---	3.62	6.84	6.30	5.07
6	4.09	3.68	3.49	3.25	3.30	3.98	6.03	---	3.67	6.89	6.06	5.00
7	4.18	3.47	3.56	3.38	3.31	3.94	6.01	---	3.76	7.03	5.84	4.95
8	4.14	3.36	3.63	3.41	3.24	4.03	6.13	---	4.12	7.26	5.66	4.92
9	4.19	3.31	3.68	3.42	3.06	4.47	6.32	---	4.51	7.49	5.53	4.86
10	4.22	3.33	3.53	3.38	3.03	4.88	6.53	---	5.34	7.68	5.46	4.84
11	4.22	3.36	3.43	3.42	3.06	5.15	6.74	---	5.94	7.81	5.40	4.84
12	4.23	3.37	3.39	3.61	2.96	5.33	6.94	---	6.19	7.81	5.36	4.80
13	4.19	3.40	3.21	3.72	2.91	5.42	7.12	---	6.23	7.69	5.32	4.77
14	4.08	3.43	3.15	3.83	2.92	5.33	7.27	---	6.20	7.51	5.29	4.75
15	3.93	3.50	3.26	4.06	2.89	5.16	7.44	---	6.21	7.34	5.24	4.75
16	3.79	3.65	3.30	4.15	3.06	4.96	7.57	---	6.28	7.24	5.19	4.75
17	3.73	3.71	3.16	4.12	3.23	4.78	7.64	---	6.36	7.13	5.15	4.73
18	3.65	3.68	3.01	3.99	3.09	4.63	7.65	---	6.44	6.92	5.13	4.66
19	3.58	3.80	3.08	3.75	2.89	4.44	7.62	---	6.59	6.80	5.17	4.59
20	3.62	4.00	3.20	3.65	2.99	4.32	7.53	---	6.75	6.80	5.26	4.58
21	3.67	3.86	3.19	3.58	3.41	4.31	7.40	---	6.90	6.89	5.37	4.57
22	3.62	3.70	3.11	3.42	3.55	4.47	7.22	---	7.02	7.13	5.42	4.58
23	3.61	3.63	3.13	3.31	3.30	5.03	7.03	---	7.14	7.45	5.39	4.58
24	3.64	3.48	3.19	3.30	3.12	5.42	6.83	---	7.34	7.63	5.34	4.70
25	3.51	3.52	3.16	3.35	3.03	5.72	6.64	4.87	7.60	7.73	5.27	5.07
26	3.46	3.79	3.08	3.38	3.00	5.99	---	4.69	7.90	7.80	5.23	5.27
27	3.55	4.07	3.09	3.43	3.23	6.24	---	4.45	8.17	7.76	5.23	5.12
28	3.54	4.13	3.24	3.38	3.75	6.45	---	4.20	8.29	7.63	5.20	4.99
29	3.49	3.79	3.27	3.43	---	6.62	---	4.08	8.19	7.50	5.16	4.91
30	3.57	3.73	3.26	3.39	---	6.73	---	3.98	7.94	7.43	5.17	4.90
31	3.68	---	3.34	3.36	---	6.72	---	3.90	---	7.34	5.15	---
TOTAL	118.94	109.04	102.62	108.46	88.97	154.08	---	---	179.89	227.50	172.82	146.01
MEAN	3.84	3.63	3.31	3.50	3.18	4.97	---	---	6.00	7.34	5.57	4.87
MAX	4.23	4.13	3.68	4.15	3.75	6.73	---	---	8.29	7.81	7.20	5.27
MIN	3.46	3.31	3.01	3.04	2.89	3.80	---	---	3.62	6.80	5.13	4.57

CAL YR 1988 TOTAL 1583.17 MEAN 4.33 MAX 7.39 MIN 1.72

02359170 APALACHICOLA RIVER NEAR SUMATRA, FL.--Continued

PERIOD OF RECORD.--October 1987 to current year.

REMARKS.--Discharges for sediment samples represent main channel only.

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	STREAM STAGE (FT ABOVE DATUM) (00065)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
OCT , 1988						
28...	1250	74	11100	3.54	20	599
28...	1255	74	11100	3.54	20	599
28...	1300	167	11100	3.54	19	569
28...	1310	167	11100	3.54	18	539
28...	1315	266	11100	3.54	19	569
28...	1320	266	11100	3.54	18	539
28...	1325	373	11100	3.54	17	509
28...	1330	373	11100	3.54	22	659
28...	1345	473	11100	3.54	19	569
28...	1350	473	11100	3.54	18	539
DEC						
22...	1510	77	9950	3.10	19	510
22...	1515	77	9950	3.10	18	484
22...	1520	167	9950	3.10	18	484
22...	1530	167	9950	3.10	15	403
22...	1545	250	9920	3.09	16	429
22...	1600	250	9920	3.09	16	429
22...	1610	366	9920	3.09	17	455
22...	1615	366	9920	3.09	14	375
22...	1620	480	9920	3.09	12	321
22...	1630	480	9920	3.09	11	295
JAN , 1989						
19...	1550	74	12200	3.97	19	626
19...	1600	74	12200	3.97	19	626
19...	1605	167	12200	3.97	21	692
19...	1615	167	12200	3.97	17	560
19...	1620	266	12200	3.97	25	823
19...	1625	266	12200	3.97	20	659
19...	1630	373	12200	3.97	23	758
19...	1635	373	12200	3.97	20	659
19...	1640	473	12300	3.98	20	664
19...	1700	473	12300	3.98	22	731
FEB						
28...	1400	74	11700	3.76	36	1140
28...	1405	74	11700	3.76	30	948
28...	1410	167	11700	3.76	37	1170
28...	1415	167	11700	3.76	39	1230
28...	1425	266	11700	3.76	37	1170
28...	1430	373	11700	3.76	42	1330
28...	1435	373	11700	3.76	37	1170
28...	1440	473	11700	3.76	34	1070
28...	1445	473	11700	3.76	34	1070
MAR						
24...	0850	84	15900	5.38	30	1290
24...	0855	84	15900	5.38	30	1290
24...	0900	186	15900	5.38	40	1720
24...	0910	186	15900	5.38	40	1720
24...	0920	284	15900	5.38	45	1930
24...	0925	284	15900	5.38	39	1670
24...	0930	385	15900	5.38	39	1670
24...	0945	385	15900	5.39	39	1670
24...	0955	489	15900	5.39	35	1500
24...	1000	489	15900	5.39	33	1420
APR						
12...	1500	92	20100	6.97	71	3850
12...	1505	92	20100	6.97	62	3360
12...	1510	171	20100	6.97	79	4290
12...	1520	171	20100	6.97	72	3910
12...	1530	255	20100	6.98	94	5100
12...	1535	255	20100	6.98	79	4290
12...	1540	337	20100	6.98	66	3580
12...	1545	337	20100	6.98	75	4070
12...	1550	444	20100	6.98	42	2280
12...	1555	444	20100	6.98	41	2230
14...	1525	92	20900	7.28	34	1920
14...	1530	171	20900	7.28	47	2650

APALACHICOLA RIVER BASIN

02359170 APALACHICOLA RIVER NEAR SUMATRA, FL.--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	STREAM STAGE (FT ABOVE DATUM) (00065)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
APR						
14...	1540	255	20900	7.29	92	5190
14...	1550	337	20900	7.28	109	6150
14...	1615	444	20900	7.29	67	3780
16...	1515	92	21600	7.58	35	2040
16...	1520	92	21600	7.58	36	2100
16...	1530	171	21600	7.58	49	2860
16...	1535	171	21700	7.59	51	2990
16...	1540	255	21700	7.59	86	5040
16...	1545	255	21700	7.59	93	5450
16...	1550	337	21700	7.59	114	6680
16...	1555	337	21700	7.59	139	8140
16...	1615	444	21700	7.59	78	4570
16...	1620	444	21700	7.59	82	4800
21...	1210	92	21200	7.40	23	1320
21...	1230	92	21100	7.39	19	1080
21...	1235	171	21100	7.39	36	2050
21...	1240	171	21100	7.39	37	2110
21...	1245	255	21100	7.39	90	5130
21...	1250	255	21100	7.39	81	4610
21...	1255	337	21100	7.39	77	4390
21...	1300	337	21100	7.39	66	3760
21...	1310	444	21100	7.39	58	3300
21...	1315	444	21100	7.39	62	3530
24...	1730	92	19600	6.79	23	1220
24...	1750	171	19600	6.79	38	2010
24...	1755	171	19600	6.79	38	2010
24...	1800	255	19600	6.79	52	2750
24...	1805	255	19600	6.79	35	1850
24...	1810	337	19600	6.79	44	2330
24...	1815	337	19600	6.79	36	1910
24...	1820	444	19600	6.79	36	1910
24...	1825	444	19600	6.79	42	2220
MAY						
25...	1700	85	14600	4.87	38	1500
25...	1705	85	14600	4.87	31	1220
25...	1710	194	14600	4.87	28	1100
25...	1745	194	14600	4.87	41	1620
25...	1800	297	14600	4.87	40	1580
25...	1830	297	14600	4.87	35	1380
25...	1855	402	14600	4.87	42	1660
25...	1900	402	14600	4.87	38	1500
25...	1905	511	14600	4.87	35	1380
25...	1910	511	14600	4.87	38	1500
JUN						
10...	1530	85	16200	5.50	61	2670
10...	1540	85	16200	5.51	59	2580
10...	1545	194	16300	5.52	84	3700
10...	1550	194	16300	5.52	78	3430
10...	1555	297	16300	5.52	79	3480
10...	1615	297	16300	5.53	82	3610
10...	1630	402	16300	5.54	89	3920
10...	1640	402	16300	5.54	90	3960
10...	1650	511	16300	5.55	82	3610
10...	1655	511	16300	5.55	74	3260
11...	1540	85	17600	6.02	45	2140
11...	1550	85	17600	6.03	42	2000
11...	1600	194	17600	6.03	82	3900
11...	1605	194	17600	6.03	81	3850
11...	1615	297	17600	6.03	88	4180
11...	1620	297	17600	6.03	98	4660
11...	1625	402	17600	6.03	95	4510
11...	1630	402	17600	6.03	96	4560
11...	1635	511	17600	6.03	87	4130
11...	1640	511	17600	6.03	89	4230
13...	1415	85	18100	6.23	27	1320
13...	1425	85	18100	6.23	36	1760
13...	1430	194	18100	6.23	38	1860
13...	1435	194	18100	6.23	44	2150
13...	1440	297	18100	6.23	54	2640
13...	1450	297	18100	6.23	49	2390
13...	1500	402	18100	6.23	20	977
13...	1510	402	18100	6.23	44	2150

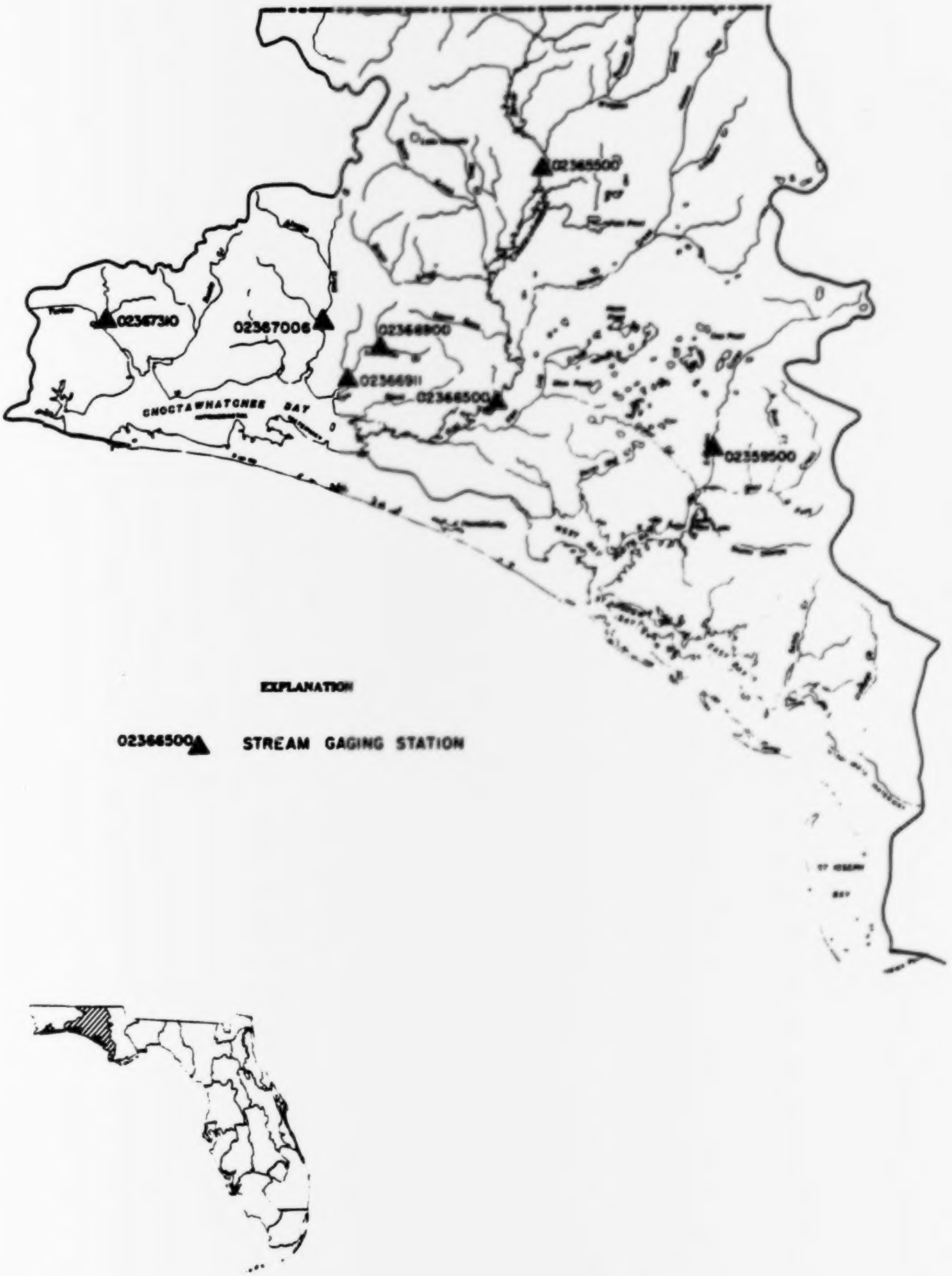
02359170 APALACHICOLA RIVER NEAR SUMATRA, FL.--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1988

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	STREAM STAGE (FT ABOVE DATUM) (00065)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
JUN , 1989						
13...	1520	511	18100	6.23	48	2350
13...	1530	511	18100	6.23	51	2490
15...	1225	85	18000	6.20	28	1360
15...	1227	85	18000	6.20	29	1410
15...	1230	194	18000	6.20	42	2040
15...	1235	194	18000	6.20	40	1940
15...	1240	297	18100	6.21	42	2050
15...	1245	297	18100	6.21	38	1860
15...	1250	402	18100	6.21	37	1810
15...	1300	402	18100	6.21	42	2050
15...	1305	511	18100	6.21	35	1710
15...	1310	511	18100	6.21	38	1860
22...	1700	92	20000	6.95	39	2110
22...	1715	171	20000	6.95	61	3290
22...	1730	255	20000	6.95	96	5180
22...	1750	333	20000	6.95	80	4320
22...	1805	444	20000	6.95	84	4540
JUL						
02...	1825	92	20800	7.24	11	618
02...	1900	92	20700	7.23	12	671
02...	1910	171	20700	7.23	21	1170
02...	1915	171	20700	7.23	21	1170
02...	1930	255	20700	7.22	39	2180
02...	1945	255	20700	7.22	64	3580
02...	1950	337	20700	7.22	29	1620
02...	1955	337	20700	7.22	52	2910
02...	2000	444	20700	7.22	47	2630
02...	2010	444	20700	7.22	38	2120
05...	1910	92	19700	6.84	36	1910
05...	1912	92	19700	6.84	36	1910
05...	1915	171	19700	6.84	42	2230
05...	1920	171	19700	6.84	52	2770
05...	1925	255	19700	6.84	45	2390
05...	1930	255	19700	6.84	60	3190
05...	1935	337	19700	6.84	58	3090
05...	1937	337	19700	6.84	57	3030
05...	1940	444	19700	6.84	46	2450
05...	1945	444	19700	6.84	45	2390

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM (80174)
FEB , 1989												
28...	1040	103	2	6	81	96	100	100	100	100	100	100
28...	1100	266	1	2	94	99	100	100	100	100	100	100
28...	1120	434	0	2	80	99	100	100	100	100	100	100
APR												
24...	1600	91	2	3	25	78	100	100	100	100	100	100
24...	1630	255	4	22	83	97	100	100	100	100	100	100
24...	1700	420	3	20	91	99	100	100	100	100	100	100


02365500
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02359500
CHOCTAWHATCHEE BAY
ST JOSEPH BAY
EXPLANATION
02366500 STREAM GAGING STATION

Figure 21.--Location of stream gaging stations in the Econfina Creek, Choctawhatchee River, Lafayette Creek, Alaqua Creek, and Turkey Creek basins.

02359500 ECONFINA CREEK NEAR BENNETT, FL

LOCATION.--Lat 30°23'04", long 85°33'24", in SE¼ sec.20, T.1 S., R.13 W., Bay County, Hydrologic Unit 03140101, near center of span on downstream side of bridge on State Highway 388, 0.5 mi downstream from Old Mill Branch, 1.6 mi southwest of Bennett, and 11 mi upstream from mouth.

DRAINAGE AREA.--122 mi².

PERIOD OF RECORD.--October 1935 to current year. Monthly discharge only for October and November 1936, published in WSP 1304.

REVISED RECORDS.--WSP 872: 1937. WSP 1906: Drainage area. WRD FL-80-4: 1979.

GAGE.--Water-stage recorder. Datum of gage is 1.03 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 29, 1962, nonrecording gage and Jan. 30, 1962 to June 16, 1966, water-stage recorder at site 150 ft downstream at present datum. June 17, 1966 to Sept. 28, 1966, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow includes large ground-water inflow.

AVERAGE DISCHARGE.--54 years, 538 ft³/s, 59.88 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,860 ft³/s Apr. 2, 1948, gage height, 12.46 ft observed, from rating curve extended above 2,200 ft³/s; minimum, 307 ft³/s Jan. 9, 1956, gage height, 4.10 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since September 1926, 15.0 ft present datum, from floodmark, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 23	1600	1040	8.03	July 5	2100	1440	9.11
June 10	0800	*3290	*11.50	July 23	1800	1530	9.33
June 18	0400	1650	9.58				

Minimum discharge, 430 ft³/s May 30, 31, June 1, gage height 5.69 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	613	569	523	504	455	461	553	540	449	939	793	703
2	615	552	519	502	455	464	516	685	486	872	762	792
3	721	541	518	494	454	510	503	678	449	860	739	701
4	889	536	517	488	450	522	497	538	453	894	712	716
5	894	578	514	484	448	487	556	502	458	1240	694	668
6	693	643	510	485	450	474	655	487	564	1350	680	631
7	630	590	509	484	466	463	604	474	778	1180	672	616
8	609	552	507	482	538	457	535	465	867	919	694	606
9	596	541	508	478	495	452	512	463	1420	807	733	597
10	587	534	509	478	469	450	511	469	2850	752	707	590
11	582	530	528	481	461	449	614	468	1550	719	676	582
12	575	526	600	480	457	447	613	459	1030	698	659	576
13	566	528	583	485	453	445	544	453	870	693	647	570
14	560	529	546	499	451	443	514	449	767	780	666	567
15	558	529	529	494	447	442	532	449	720	872	684	576
16	555	530	520	482	445	441	567	449	892	908	672	663
17	551	542	517	474	444	483	539	447	1370	899	664	711
18	549	554	513	472	442	465	508	441	1550	889	658	638
19	548	534	510	469	441	448	496	439	1100	818	650	588
20	547	575	506	466	441	441	501	441	922	795	673	572
21	546	730	503	464	492	470	534	453	1030	983	647	565
22	546	745	501	462	651	712	523	475	1010	1240	637	562
23	545	619	501	462	616	990	496	475	991	1460	648	559
24	542	573	500	462	513	957	483	496	1010	1410	653	563
25	540	555	500	461	483	728	476	507	1020	1130	624	660
26	536	546	496	459	475	564	472	478	849	1030	609	732
27	532	542	492	458	469	544	467	455	797	888	704	685
28	531	539	492	457	468	524	465	442	773	819	700	622
29	536	532	495	455	---	513	481	433	788	789	643	601
30	552	527	498	455	---	552	479	430	938	777	741	594
31	584	---	495	455	---	595	---	430	---	767	718	---
TOTAL	18428	16921	15957	14731	13329	16413	15746	14870	28751	29177	21159	18806
MEAN	594	564	515	475	476	529	525	480	958	941	683	627
MAX	894	745	600	504	651	990	655	685	2850	1460	793	792
MIN	531	526	492	455	441	441	465	430	449	693	609	559
CFSM	4.87	4.62	4.22	3.89	3.90	4.34	4.30	3.93	7.85	7.71	5.60	5.14
IN.	5.62	5.16	4.87	4.49	4.06	5.00	4.80	4.53	8.77	8.90	6.45	5.73
AC-FT	36550	33560	31650	29220	26440	32560	31230	29490	57030	57870	41970	37300

CAL YR 1988 TOTAL 205191 MEAN 561 MAX 1530 MIN 420 CFSM 4.60 IN 62.57 AC-FT 407000
WTR YR 1989 TOTAL 224288 MEAN 614 MAX 2850 MIN 430 CFSM 5.03 IN 68.39 AC-FT 444900

02365500 CHOCTAWHATCHEE RIVER AT CARYVILLE, FL

LOCATION.--Lat 30°46'32", long 85°49'40", in NW1/4 sec.10, T.4 N., R.16 W., Holmes County, Hydrologic Unit 03140203, near right bank on downstream side of bridge on U.S. Highway 90, 300 ft downstream from Louisville and Nashville Railroad bridge, 0.8 mi west of Caryville, 1.8 mi downstream from Wrights Creek, and 64 mi upstream from mouth.

DRAINAGE AREA.--3,499 mi^2.

PERIOD OF RECORD.--August 1929 to current year. Gage-height records collected at same site from 1928 to August 1929 are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 39.02 ft above National Geodetic Vertical Datum of 1929. Aug. 17 to Oct. 11, 1929, nonrecording gage at same site and datum; Oct. 12, 1929 to Sept. 11, 1951, water-stage recorder at same site and datum; Sept. 12, 1951 to Aug. 11, 1976, nonrecording gage at same site and datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--60 years, 5,376 ft^3/s, 20.86 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 88,000 ft^3/s Apr. 13, 1975, gage height, 18.39 ft; minimum, 604 ft^3/s Sept. 15,16, 1968; minimum gage height, -0.82 ft Sept. 6, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1850 (from information furnished by U.S. Army Corps of Engineers, Mobile District) 27.1 ft Mar. 17, 1929, from National Weather Service records and floodmarks; discharge, 206,000 ft^3/s from rating curve extended above 85,000 ft^3/s on basis of slope-area determination of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35,500 ft^3/s June 10, gage height, 14.35 ft; minimum, 1,290 ft^3/s Sept. 24, gage height, 1.93 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3080	1970	2360	3710	2640	4510	8660	3420	1890	6960	5910	1840
2	2820	2390	2550	5070	2720	4360	9250	5150	1760	6780	4950	e1800
3	3470	2610	2450	5240	2680	4990	8620	7330	1660	7000	4340	e2450
4	5910	2350	2360	4530	2600	6600	7130	9140	1710	8150	3930	e2900
5	8040	2370	2300	3810	2560	7610	6230	10200	1990	10100	3650	e3250
6	8490	3090	2260	3330	2550	7480	7200	9600	2020	12400	3540	e2950
7	7050	3520	2220	3100	2540	6710	9320	7700	2170	14000	e3500	e2550
8	5160	3270	2200	2990	2560	6610	11000	5890	3560	14900	e3400	e2150
9	4030	2930	2190	2960	2590	6640	11200	4430	14700	14600	e3350	e1950
10	3450	2720	2190	3390	2490	6360	9680	3560	32800	12800	e3300	1730
11	3130	2540	2250	4100	2350	5810	8310	3300	29000	10100	e3200	1640
12	2930	2390	2580	4150	2260	5040	8530	3330	23700	7430	e3150	1570
13	2760	2320	3100	3790	2210	4350	9630	3130	18800	5670	e3050	1500
14	2580	2330	3090	3490	2170	3900	10700	2950	12900	4840	e2900	1440
15	2430	2450	2850	3310	2150	3600	10900	2860	8260	4950	e2800	1400
16	2330	2480	2690	3220	2140	3410	9950	2790	7080	5670	e2850	1630
17	2270	2420	2610	3220	2120	3380	8730	2710	10400	6570	e2900	1670
18	2210	2380	2620	3150	2090	3410	7440	2530	16300	7750	e2950	1780
19	2160	2450	2560	3030	2060	3320	6270	2390	20700	8760	e3050	1720
20	2110	2550	2470	2920	2070	3280	5490	2300	22000	9290	e2950	1580
21	2070	3880	2420	2890	3000	3190	5060	2300	21200	9190	e2750	1480
22	2170	4870	2390	2960	7040	3630	4780	2680	19100	8970	e2600	1410
23	2740	4530	2370	2920	11200	5890	4390	3340	16500	9610	e2400	1380
24	2840	3850	2360	2790	13800	8940	4000	3390	14800	11000	e2300	1310
25	2470	3330	2330	2670	13100	11700	3710	3370	14400	12300	e2200	1370
26	2240	3030	2310	2580	9690	13700	3470	3470	13800	13200	2100	1830
27	2100	2830	2300	2510	6620	14200	3250	3150	12900	13900	2050	2310
28	2010	2730	2280	2450	5150	12600	3040	2840	11100	13200	e2000	2580
29	1960	2730	2280	2400	---	10300	2890	2610	8860	10900	2160	2610
30	1930	2760	2370	2370	---	8630	2950	2330	7460	8460	2110	2610
31	1920	---	2460	2460	---	8020	---	2070	---	7060	1970	---
TOTAL	100860	86070	76070	101510	117150	202170	211780	126260	373520	296510	94310	58390
MEAN	3254	2869	2454	3275	4184	6522	7059	4073	12450	9565	3042	1946
MAX	8490	4870	3100	5240	13800	14200	11200	10200	32800	14900	5910	3250
MIN	1920	1970	2190	2370	2060	3190	2890	2070	1660	4840	1970	1310
AC-FT	200100	170700	150900	201300	232400	401000	420100	250400	740900	588100	187100	115800

CAL YR 1988 TOTAL 1447054 MEAN 3954 MAX 22900 MIN 925 AC-FT 2870000
WTR YR 1989 TOTAL 1844600 MEAN 5054 MAX 32800 MIN 1310 AC-FT 3659000

e Estimated

02366500 CHOCTAWHATCHEE RIVER NEAR BRUCE, FL
(National stream-quality accounting network station)

LOCATION.--Lat 30°27'03", long 85°53'54", in NE$^1/_4$ sec.36, T.1 N., R.17 W., Walton County, Hydrologic Unit 03140203, near center of main channel on upstream side of bridge on State Highway 20, 4.0 mi southeast of Bruce, 5.8 mi downstream from Holmes Creek, and 21 mi upstream from mouth.

DRAINAGE AREA.--4,384 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1930 to March 1983; Apr. 1983 to May 1984 (discharge measurements only); June 1984 to current year.

REVISED RECORDS.--WSP 872: 1937. WSP 1384: Drainage area. WSP 1504: 1931-34.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Apr. 1, 1983, water-stage recorder at same site at datum 3.94 ft lower. Prior to Apr. 6, 1934, nonrecording gage at site 1.0 mi downstream at datum 4.19 ft lower.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--57 years (1931-82, 1985-89), 7,013 ft^3/s, 21.73 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,900 ft^3/s Apr. 15, 1975, gage height, 21.48 ft at present datum; minimum, 1,290 ft^3/s Oct. 27, 1968, gage height, 3.46 ft at present datum.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of March 1929 reached a stage of 25.0 ft at former site and datum, from floodmarks, discharge, 220,000 ft^3/s, from rating curve extended above 80,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge 42,200 ft^3/s, June 14, gage height, 17.65 ft; mininum daily, 2,400 ft^3/s, June 5, gage height 5.61 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6350	2820	3650	3090	3170	10600	12400	4070	2970	13400	12500	4000
2	6450	2870	3550	3550	3220	9150	11200	4270	2770	11500	10800	3950
3	6130	2990	3450	4050	3360	8020	10400	4400	2610	10600	9550	3990
4	6060	3310	3360	4860	3360	6990	9910	4990	2500	10300	8760	4400
5	6480	3400	3270	5240	3320	6510	10300	5880	2400	10900	8060	4660
6	6850	3510	3180	5480	3340	6650	9910	6810	2600	12100	7160	4730
7	7660	3690	3090	5380	3400	7050	9370	7900	3270	14200	6320	4660
8	8680	3970	3090	4860	3450	7700	9000	9150	4060	15600	5760	4380
9	9020	4140	3050	4540	3440	8060	9190	9370	7270	17000	5580	3950
10	8420	4070	3000	4160	3410	7940	10600	8490	12300	17400	5160	3570
11	7480	3850	3130	4110	3320	7760	12100	7390	e20000	17100	4830	3350
12	6160	3630	3270	4430	3180	7590	12400	5950	e35000	15500	4650	3180
13	5240	3450	3450	4730	3070	7340	12100	5140	e40000	14400	4400	3020
14	4600	3310	3730	4990	2960	6990	11000	4490	42200	12600	4310	2830
15	4200	3250	3900	5020	2920	6280	10900	4160	e35000	11300	4150	2730
16	3690	3270	3930	4860	2890	5570	11400	3860	e30000	10300	4050	2750
17	3510	3270	3790	4490	2840	5140	11800	3650	18700	9830	4050	3130
18	3420	3250	3550	4380	2790	4870	11200	3530	15800	9640	4160	3320
19	3340	3230	3470	4160	2750	4580	10900	3380	15100	9930	4220	3310
20	3270	3310	3420	4140	2730	4380	10300	3240	18300	10400	4310	3180
21	3210	3490	3360	4050	3190	4320	8950	3190	e30000	12000	4250	3020
22	3180	3910	3320	3930	3850	5200	8320	3180	31800	12900	4050	2850
23	3250	4490	3270	3850	4490	6320	7160	3270	e30000	14600	3930	2750
24	3380	4810	3180	3830	5410	6830	6650	3850	26300	15800	3690	2670
25	3590	5240	3180	3740	6900	7520	6080	4270	e23000	17200	3550	2660
26	3490	5080	3130	3600	8510	9150	5820	4340	20200	18200	3470	2790
27	3320	4550	3090	3500	11500	10900	5140	4280	18200	18700	3440	3090
28	3130	4250	3090	3380	12100	12400	4750	4210	17000	18100	3360	3450
29	3020	3950	3090	3310	---	14300	4500	3850	15800	17500	3600	3650
30	2920	3750	3070	3180	---	14400	4160	3660	14900	15900	3750	3950
31	2880	---	3070	3150	---	13700	---	3340	---	14600	3950	---
TOTAL	152380	112110	103180	130040	118870	244210	277910	151560	540050	429500	163820	103980
MEAN	4915	3737	3328	4195	4245	7878	9264	4889	18000	13850	5285	3466
MAX	9020	5240	3930	5480	12100	14400	12400	9370	42200	18700	12500	4730
MIN	2880	2820	3000	3090	2730	4320	4160	3180	2400	9640	3360	2660
AC-FT	302200	222400	204700	257900	235800	484400	551200	300600	1071000	851900	324900	206200
CFSM	1.12	.85	.76	.96	.97	1.80	2.11	1.12	4.11	3.16	1.21	.79
IN.	1.29	.95	.88	1.10	1.01	2.07	2.36	1.29	4.58	3.64	1.39	.88

CAL YR 1988 TOTAL 2061560 MEAN 5633 MAX 27100 MIN 1580 AC-FT 4089000 CFSM 1.28 IN. 17.49
WTR YR 1989 TOTAL 2527610 MEAN 6925 MAX 42200 MIN 2400 AC-FT 5014000 CFSM 1.58 IN. 21.45

e Estimated

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUC-TANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
DEC 03...	1430	3490	117	7.70	13.0	7.8	9.5	89	36	33	50
MAR 10...	1400	7880	67	7.10	14.0	18	8.2	79	78	90	26
JUN 29...	1720	15900	57	7.00	25.0	12	5.2	62	36	210	23
AUG 18...	1700	4160	110	7.80	26.5	9.5	6.0	74	100	120	50

DATE	HARD-NESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA-LINITY LAB (MG/L AS CACO3)	ALKA-LINITY WAT.DIS FIELD INC.T. (MG/L CACO3)
DEC 03...	3	3	16	2.5	3.7	14	.2	1.0	51	47	42
MAR 10...	--	--	7.9	1.4	2.9	19	.3	1.1	41	--	34
JUN 29...	--	--	7.2	1.2	1.9	15	.2	1.1	41	--	34
AUG 18...	4	4	16	2.4	3.6	13	.2	.90	54	46	44

DATE	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
DEC 03...	1.8	3.9	5.9	.10	7.5	70	69	.10	660	.010	.28
MAR 10...	--	5.7	4.8	.10	6.0	46	--	.06	979	<.010	.16
JUN 29...	--	<1.0	4.2	<.10	6.1	50	--	.07	2150	.010	.16
AUG 18...	1.4	2.0	5.5	.10	7.2	67	66	.09	753	<.010	.31

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)
DEC 03...	<.010	<.010	--	.03	--	.20	.030	<.010	<.010	10	<1
MAR 10...	.010	.010	.01	--	.49	.50	.040	<.010	<.010	20	<1
JUN 29...	.030	.040	.05	.03	.57	.60	.030	<.010	<.010	30	1
AUG 18...	.040	.020	.03	--	.26	.30	.040	<.010	<.010	40	<1

02366500 CHOCTAWHATCHEE RIVER NEAR BRUCE, FL--Continued.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)
DEC 03...	13	<.5	<1	1	<3	<1	360	<5	<4	22	<.1
MAR 10...	20	<.5	1	1	<3	<1	120	<5	<4	15	<.1
JUN 29...	15	<.5	<1	1	<3	2	150	1	<4	29	<.1
AUG 18...	14	<.5	<1	<1	<3	<1	390	<1	<4	26	<.1

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 03...	<10	1	<1	<1	36	<6	<3	7	66	57
MAR 10...	<10	2	<1	<1	21	<6	<3	22	468	45
JUN 29...	<10	3	<1	<1	21	<6	<3	11	472	54
AUG 18...	<10	<1	<1	<1	40	<6	<3	19	213	89

02366900 MAGNOLIA CREEK NEAR FREEPORT, FL

LOCATION.--Lat 30°31'48", long 86°05'15", in NW¼ sec.6, T.1 S., R.18 W., Walton County, Hydrologic Unit 03140102, near right bank on downstream side of bridge, 0.5 mi upstream from Lafayette Creek, and 3.5 mi northeast of Freeport.

DRAINAGE AREA.--11.2 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1968 to September 1971 and October 1974 to September 1978; October 1971 to September 1974 and October 1978 to September 1984 (gage heights, discharge measurements and average discharge); October 1984 to current year (discharge measurements only).

REVISED RECORDS.--WRD FL-77-4: 1969-71, 1975-76 (M).

GAGE.--Nonrecording gage. Datum of gage is 18.31 ft above National Geodetic Vertical Datum of 1929.

AVERAGE DISCHARGE.--13 years (water years 1969-71, 1974-84), 39.1 ft^3/s, 47.43 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,550 ft^3/s Feb. 16, 1970, gage height, 13.62 ft, from rating curve extended above 350 ft^3/s on basis of velocity-area study; minimum, 14 ft^3/s June 29, 30, July 1, 1974, gage height, 4.63 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
JUN 20...	1350	62	31	5.50	23.5	90	8.2	8	6	6	1.8
SEP 05...	1130	32	34	5.90	25.0	40	8.1	8	7	7	1.9

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
JUN 20...	.86	1.2	21	.2	1.5	2.0	12	4.0	3.0	.10	3.3
SEP 05...	.80	1.4	23	.2	1.9	1.0	2.4	4.0	3.1	.20	3.7

DATE	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)
JUN 20...	29	17	.04	4.9	<.010	.30	.030	.37	.40	.70	3.1
SEP 05...	23	18	.03	2.0	<.010	.30	.020	--	<.20	--	--

DATE	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	STRONTIUM, DISSOLVED (UG/L AS SR)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)
JUN 20...	.010	<.010	8	<1	<1.0	<1.00	<.1	<.1	<.1	<1.0
SEP 05...	<.020	<.010	50	--	--	--	--	--	--	--

DATE	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)
JUN 20...	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<10
SEP 05...	--	--	--	--	--	--	--	--	--	--

02366911 LAFAYETTE CREEK AT FREEPORT, FL

LOCATION.--Lat 30°29'35", long 86°07'33", Walton County, Hydrologic Unit 03140102, at bridge on State Highway 20 at Freeport.

DRAINAGE AREA.--35.5 mi².

PERIOD OF RECORD.--May 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
JUN 20...	1550	191	27	5.40	25.0	100	6.3	7	5	5	1.6

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
JUN 20...	.67	1.6	30	.3	1.1	2.0	15	3.0	3.7	.10	3.5

DATE	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)
JUN 20...	26	16	.04	13	<.010	.20	.020	.28	.30	.50	2.2

DATE	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	STRONTIUM, DISSOLVED (UG/L AS SR)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)
JUN 20...	<.010	<.010	8	<1	<1.0	<1.00	<.1	<.1	<.1	3.0

DATE	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)
JUN 20...	.2	<.1	<.1	.2	<.1	<.1	<.1	<.1	<1.0	<10

02367006 ALAQUA CREEK NEAR PORTLAND, FL

LOCATION.--Lat 30°33'22", long 86°10'45", in NE¼ sec.30, T.1 N., R.19 W., Walton County, Hydrologic Unit 03140102, near center on downstream side of bridge on State Highway S-282, 3.2 mi northeast of Portland, and 5.8 mi upstream from mouth.

DRAINAGE AREA.--83.7 mi².

PERIOD OF RECORD.--May and July 1977, October 1978 to January 1980 (discharge measurements only), February 1980 to current year.

REVISED RECORDS.--WRD FL-85-4: 1980-84(M).

GAGE.--Water-stage recorder. Datum of gage 1.84 ft above National Geodetic Vertical Datum of 1929 (Vitro Corporation of America bench mark). Prior to Feb. 14, 1980, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records fair.

AVERAGE DISCHARGE.--9 years, 200 ft³/s, 32.45 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,850 ft³/s, June 9, 1989, gage height, 16.03 ft, extended above 6,480 ft³/s; minimum discharge, 47 ft³/s June 8, 1985, gage height, 2.67 ft.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Feb. 22	0900	1,560	9.94	June 9	0600	*9,850	*16.03
Mar. 23	1100	1,420	9.85	June 17	1100	1,010	9.42

Minimum discharge, 83 ft³/s, June 18, 19, gage height, 3.62 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	203	124	104	154	89	171	375	256	149	361	325	209
2	211	120	100	202	88	182	257	505	119	392	317	324
3	413	114	99	126	88	335	231	345	107	416	291	233
4	468	111	100	111	88	275	220	199	120	577	275	177
5	251	158	99	102	87	207	333	171	121	725	263	166
6	198	190	98	97	182	244	601	160	162	720	248	155
7	183	129	97	97	177	272	403	142	241	616	252	148
8	173	117	98	97	166	196	268	132	1100	407	289	144
9	166	115	102	110	115	175	241	128	6450	341	246	140
10	162	112	106	270	101	160	301	140	1350	313	229	154
11	158	111	140	303	97	149	451	151	823	292	219	138
12	153	109	214	185	95	143	393	127	727	269	208	131
13	146	131	152	162	92	137	278	118	593	269	203	127
14	141	145	127	207	91	134	238	115	454	364	200	127
15	140	125	116	159	91	131	247	116	404	443	213	138
16	140	120	113	143	89	133	261	114	689	688	205	247
17	138	118	107	128	87	163	213	108	965	807	207	205
18	135	119	102	119	84	135	192	104	747	565	196	147
19	133	109	100	114	84	124	182	114	490	457	220	133
20	131	122	100	112	94	118	197	143	466	410	258	127
21	129	251	99	125	458	157	248	154	686	449	207	125
22	128	164	99	120	1190	581	201	203	642	726	204	123
23	124	131	98	107	678	1210	173	195	559	809	184	120
24	122	122	98	103	313	1020	160	310	456	739	174	119
25	119	116	99	99	238	565	152	225	384	692	168	186
26	116	114	100	97	211	352	146	150	377	677	162	238
27	115	113	93	96	194	296	139	127	460	427	170	173
28	115	114	93	96	182	259	139	114	393	355	176	150
29	119	106	106	92	---	236	145	104	333	328	202	143
30	122	104	105	91	---	348	136	120	345	442	197	287
31	120	---	98	92	---	531	---	149	---	378	166	---
TOTAL	5172	3834	3362	4116	5549	9139	7521	5239	20912	15454	6874	5034
MEAN	167	128	108	133	198	295	251	169	697	499	222	168
MAX	468	251	214	303	1190	1210	601	505	6450	809	325	324
MIN	115	104	93	91	84	118	136	104	107	269	162	119
AC-FT	10260	7600	6670	8160	11010	18130	14920	10390	41480	30650	13630	9980

CAL YR 1988 TOTAL 66549 MEAN 182 MAX 1260 MIN 58 AC-FT 132000
WTR YR 1989 TOTAL 92206 MEAN 253 MAX 6450 MIN 84 AC-FT 182900

02367310 JUNIPER CREEK AT STATE HIGHWAY 85, NEAR NICEVILLE, FL

LOCATION.--Lat 30°33'26", long 86°31'11", in NW1/4 sec.26, T.1 N., R.23 W., Okaloosa County, Hydrologic Unit 03140102, on left bank 20 ft downstream from southbound bridge on State Highway 85, 0.8 mi upstream from Turkey Creek, and 3.0 mi northwest of Niceville.

DRAINAGE AREA.--27.6 mi^2.

PERIOD OF RECORD.--March 1966 to September 1975; October 1975 to April 1977 (discharge measurements only); May 1977 to current year.

REVISED RECORDS.--WRD FL-77-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.78 ft above National Geodetic Vertical Datum of 1929. March 1966 to September 1975, water-stage recorder at site 40 ft upstream at present datum. October 1975 to April 1977, nonrecording gage at site 40 ft upstream at present datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--21 years, (water years 1967-75, 1978-89), 90.6 ft^3/s, 44.58 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,110 ft^3/s Sept. 23, 1975, gage height, 9.56 ft, extended above 415 ft^3/s; minimum, 37 ft^3/s June 6, 1985; minimum gage height, 5.19 ft Sept. 11, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*):

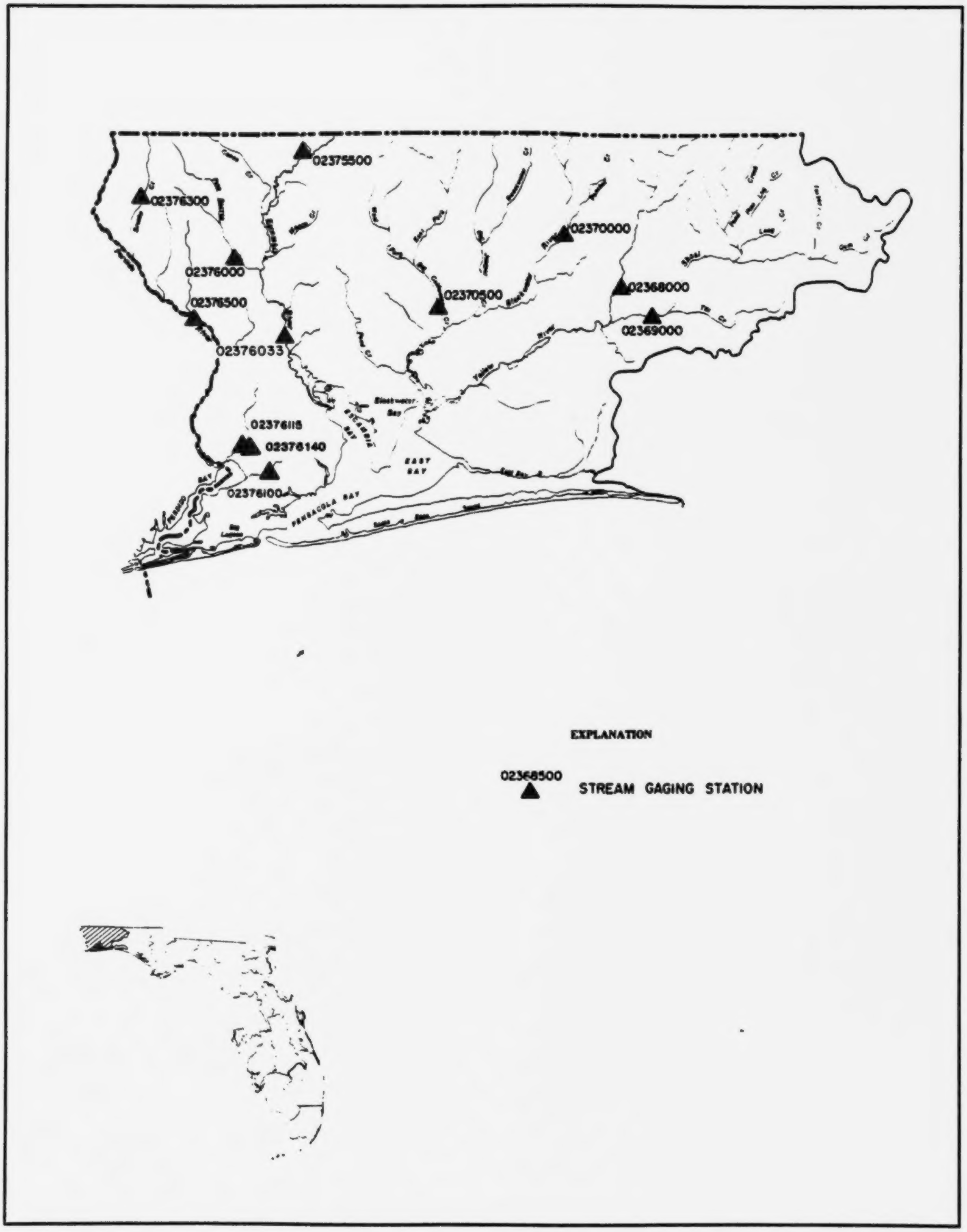
Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 3	1300	253	7.50	June 9	0100	*715	*8.55
Feb. 21	0900	493	7.99	June 16	1200	368	7.91
Mar. 22	0100	456	7.93	June 24	0200	300	7.76
May 1	1800	339	7.71	July 22	1600	330	7.75
May 20	2400	600	8.26	Sept. 30	2100	378	7.79

Minimum discharge, 57 ft^3/s, Feb. 17, gage height, 5.94 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	106	79	88	64	68	83	213	94	158	147	154
2	117	83	78	75	64	86	80	120	92	154	146	149
3	209	81	78	76	64	93	80	89	96	195	145	158
4	117	80	78	75	63	73	80	84	94	178	144	126
5	99	101	78	71	63	71	145	83	97	180	151	120
6	95	83	78	73	64	76	95	80	107	160	142	117
7	92	79	78	71	67	68	83	78	113	152	144	115
8	90	79	78	72	63	67	80	77	460	148	151	113
9	89	80	80	102	61	65	79	77	471	147	143	111
10	88	78	78	99	61	64	89	142	203	145	140	112
11	87	78	107	78	61	63	104	93	180	143	138	108
12	86	77	93	75	61	62	83	82	169	143	137	106
13	83	96	82	81	61	62	79	79	151	148	136	105
14	84	84	79	74	61	62	79	79	148	163	134	109
15	84	82	79	74	60	62	85	79	180	159	134	110
16	84	81	77	71	60	63	79	78	331	181	141	123
17	83	81	76	70	59	62	77	76	188	164	148	106
18	83	78	75	70	58	60	76	75	158	166	133	102
19	83	79	75	70	58	59	76	100	154	181	134	103
20	83	115	82	72	73	60	83	246	150	158	138	105
21	83	96	79	70	336	129	92	317	147	159	134	103
22	82	87	76	68	114	259	78	152	204	249	131	101
23	81	85	75	68	83	218	76	124	194	189	127	100
24	81	83	75	67	77	111	75	138	234	168	125	100
25	79	82	74	66	74	96	75	118	182	163	123	168
26	79	82	72	66	72	89	74	107	159	158	125	133
27	80	83	72	66	70	85	73	103	155	160	130	108
28	80	81	77	65	70	83	91	100	151	153	129	105
29	83	79	74	65	---	82	85	98	152	151	124	107
30	86	79	73	65	---	160	77	97	162	155	123	236
31	105	---	83	64	---	93	---	96	---	149	120	---
TOTAL	2849	2538	2438	2267	2142	2751	2511	3480	5376	5077	4217	3613
MEAN	91.9	84.6	78.6	73.1	76.5	88.7	83.7	112	179	164	136	120
MAX	209	115	107	102	336	259	145	317	471	249	151	236
MIN	79	77	72	64	58	59	73	75	92	143	120	100
CFSM	3.33	3.07	2.85	2.65	2.77	3.21	3.03	4.06	6.49	5.94	4.93	4.35
IN.	3.84	3.42	3.29	3.06	2.89	3.71	3.38	4.69	7.25	6.84	5.68	4.87
AC-FT	5650	5030	4840	4500	4250	5460	4980	6900	10660	10070	8360	7170

CAL YR 1988 TOTAL 28509 MEAN 77.9 MAX 254 MIN 49 CFSM 2.82 IN 38.42 AC-FT 56550
WTR YR 1989 TOTAL 39258 MEAN 108 MAX 471 MIN 58 CFSM 3.91 IN 52.91 AC-FT 77870


02375500
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Blackwater Bay
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02376140
ESCAMBIA BAY
EAST BAY
02376100
PENSACOLA BAY
EXPLANATION
02368500
STREAM GAGING STATION

Figure 22.–Location of stream gaging stations in the Yellow, Blackwater, Escambia River basins, Bayou Marcus and Elevenmile Creek and perdido River basin.

02368000 YELLOW RIVER AT MILLIGAN, FL
(National stream-quality accounting network station)

LOCATION.--Lat 30°45'10", long 86°37'45" in SE¼ sec.15, T.3 N., R.24 W., Okaloosa County, Hydrologic Unit 03140103, near center on downstream side of bridge on U.S. Highway 90, 0.5 mi east of Milligan, 0.5 mi upstream from Trammel Creek, 6.7 mi upstream from Shoal River, and 40 mi upstream from mouth.

DRAINAGE AREA.--624 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1938 to current year.

REVISED RECORDS.--WSP 892: 1938-39. WSP 1384: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 45.00 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 6, 1939, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--51 years, 1,150 ft³/s, 25.03 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,600 ft³/s Apr. 12, 1975, gage height, 17.71 ft; minimum, 131 ft³/s June 23, 24, 1967 (result of channel work); minimum gage height, 0.59 ft Oct. 21, 22, 24, 25, 30, 1968. Prior to June 23, 1967, minimum discharge, 143 ft³/s Oct. 25, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1929 reached a stage of 26.2 ft, from information by local residents, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,430 ft³/s June 9, gage height, 10.79 ft; minimum, 294 ft³/s Sept. 14, 15, gage height, 1.40 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1080	603	734	727	486	674	2080	928	484	1990	1200	383
2	1270	600	642	1010	490	748	2340	1630	436	2110	1090	485
3	1730	668	593	1040	485	963	2390	1960	419	2370	1090	522
4	2270	651	567	840	475	1160	1860	2340	430	2570	1010	541
5	2530	678	550	714	463	1450	1480	2550	399	2710	855	535
6	2630	844	537	640	456	1470	1790	2060	431	2830	738	491
7	2490	959	530	607	467	1440	2440	1070	494	3010	659	433
8	1880	969	525	609	468	1560	3300	766	1900	2990	607	393
9	1180	802	523	667	461	1510	3490	660	8050	2660	589	366
10	963	678	519	674	448	1110	2710	623	7160	2150	628	348
11	866	618	584	660	439	867	1870	595	4670	1860	668	332
12	806	574	735	627	429	768	1610	594	3840	1600	609	319
13	753	649	808	611	419	698	1610	566	2860	1260	558	309
14	703	645	807	601	416	653	1490	529	1950	1210	526	300
15	662	650	733	626	414	620	1280	496	1630	1440	512	314
16	637	635	662	642	411	596	1140	473	2260	1830	499	544
17	615	604	634	666	409	599	1090	455	3260	1980	520	674
18	594	597	633	648	405	615	989	439	4860	2130	505	569
19	579	616	624	598	403	580	876	453	6860	2230	486	489
20	566	892	596	575	410	544	881	598	6310	1850	475	414
21	557	1530	569	605	707	614	901	1020	4560	1510	444	370
22	552	1330	552	629	1030	1090	897	1020	3170	1530	481	344
23	568	1040	543	627	1250	1470	823	1050	2700	1760	547	325
24	632	891	539	582	1550	1860	721	1320	2800	2070	515	311
25	605	765	533	540	1740	2100	646	1250	2870	2550	462	607
26	560	689	521	514	1340	2420	595	913	2690	2730	423	983
27	529	655	516	498	824	2770	556	720	2230	2820	399	834
28	505	676	529	485	715	2540	527	596	1980	2700	414	824
29	494	747	535	475	---	1700	537	512	2070	2040	460	732
30	490	800	537	474	---	1420	563	467	2180	1550	424	1060
31	518	---	572	493	---	1860	---	459	---	1380	404	---
TOTAL	30814	23055	18482	19704	18010	38469	43482	29112	85953	65420	18797	15151
MEAN	994	769	596	636	643	1241	1449	939	2865	2110	606	505
MAX	2630	1530	808	1040	1740	2770	3490	2550	8050	3010	1200	1060
MIN	490	574	516	474	403	544	527	439	399	1210	399	300
CFSM	1.59	1.23	.96	1.02	1.03	1.99	2.32	1.51	4.59	3.38	.97	.81
IN.	1.84	1.37	1.10	1.17	1.07	2.29	2.59	1.74	5.12	3.90	1.12	.90
AC-FT	61120	45730	36660	39080	35720	76300	86250	57740	170500	129800	37280	30050

CAL YR 1988 TOTAL 344074 MEAN 940 MAX 4120 MIN 171 CFSM 1.51 IN 20.51 AC-FT 682500
WTR YR 1989 TOTAL 406449 MEAN 1114 MAX 8050 MIN 300 CFSM 1.79 IN 24.23 AC-FT 806200

02368000 YELLOW RIVER AT MILLIGAN, FL.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1962 to June 1972, October 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
DEC											
02...	1200	642	--	7.30	11.5	6.5	8.6	78	78	51	24
MAR											
09...	1630	1470	48	7.00	13.0	17	9.9	93	310	150	17
JUN											
30...	0930	2210	40	7.00	24.0	13	6.4	75	330	650	16
AUG											
18...	0850	510	62	7.70	25.0	4.2	6.8	83	170	110	27

DATE	HARDNESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKALINITY LAB (MG/L AS CACO3)	ALKALINITY WAT.DIS FIELD INC.T. (MG/L CACO3)
DEC											
02...	3	3	7.0	1.5	2.2	16	.2	.70	23	21	19
MAR											
09...	4	4	4.7	1.2	2.2	21	.2	.80	12	13	10
JUN											
30...	4	4	4.6	1.0	1.7	18	.2	.60	12	12	10
AUG											
18...	3	3	8.0	1.7	2.0	14	.2	.50	27	24	22

DATE	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
DEC											
02...	2.0	3.4	4.2	<.10	6.7	33	39	.04	57	<.010	.15
MAR											
09...	2.5	4.6	4.1	.10	5.2	28	31	.04	111	<.010	.14
JUN											
30...	2.3	<1.0	4.1	<.10	5.3	44	--	.06	263	<.010	.14
AUG											
18...	.9	1.0	3.5	.10	6.2	42	38	.06	58	<.010	.16

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NH4, WATER, DIS., (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
DEC											
02...	<.010	<.010	--	--	.30	.020	<.010	<.010	<10	<1	11
MAR											
09...	.020	.020	.03	.58	.60	.040	<.010	<.010	60	<1	18
JUN											
30...	.020	.050	.06	.38	.40	.020	<.010	<.010	60	1	12
AUG											
18...	.030	.020	.03	.27	.30	.020	<.010	<.010	40	<1	12

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)
DEC										
02...	<.5	<1	<1	<3	<1	170	<5	<4	21	<.1
MAR										
09...	<.5	2	1	<3	<1	350	<5	<4	14	<.1
JUN										
30...	<.5	<1	<1	<3	<1	170	<1	<4	37	.3
AUG										
18...	<.5	<1	1	<3	1	510	<1	<4	24	<.1

DATE	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC										
02...	<10	<1	<1	1	16	<6	<3	7	12	43
MAR										
09...	<10	2	<1	<1	8	<6	5	38	151	34
JUN										
30...	<10	<1	<1	<1	13	<6	4	46	274	24
AUG										
18...	<10	1	<1	<1	18	<6	<3	13	18	85

02369000 SHOAL RIVER NEAR CRESTVIEW, FL

LOCATION.--Lat 30°41'50", long 86°34'15", in SW¼ sec.5, T.2 N., R.23 W., Okaloosa County, Hydrologic Unit 03140103, near center of bridge on downstream side of southbound lane on State Highway 85, 3.5 mi downstream from Titi Creek, 4.2 mi south of Crestview, and 7 mi upstream from mouth.

DRAINAGE AREA.--474 mi².

PERIOD OF RECORD.--July 1938 to current year.

REVISED RECORDS.--WSP 1274: 1939-40, 1944, 1947, 1950. WSP 1384: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 47.21 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 12, 1939 and June 12, 1972 to Aug. 22, 1973, nonrecording gage at same site and datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--51 years, 1,091 ft³/s, 31.26 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,200 ft³/s Aug. 1, 1975, gage height, 15.58 ft; minimum, 240 ft³/s Oct. 17, 18, 1972; minimum gage height, 0.96 ft May 13,14, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Feb. 23	1200	6,390	8.61	June 18	1100	6,870	8.76
June 10	Unknown	*20,600	*14.24				

Minimum discharge, 454 ft³/s Feb. 19, gage height, 3.10 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1690	964	744	1140	603	1060	1850	1030	801	3200	1530	985
2	1760	915	719	1350	659	1010	1290	2400	720	3040	1570	1230
3	2420	850	698	1020	572	1310	1040	3120	622	2670	1460	1240
4	3190	803	690	807	537	1720	964	2360	602	2790	1330	995
5	3220	925	684	721	546	1470	1240	1220	588	2950	1280	886
6	2270	1110	675	678	540	1210	2270	981	674	3180	1280	832
7	1630	972	670	667	551	1160	2720	878	824	3330	1190	791
8	1400	840	668	659	567	1060	1910	787	e2020	2860	1180	761
9	1300	790	673	706	548	968	1260	725	e14800	2370	1170	740
10	1230	768	670	923	516	909	1120	736	e19800	2230	1110	727
11	1180	754	762	1030	505	862	1230	750	e16800	1990	1060	702
12	1140	729	1050	887	496	828	1340	682	e10200	1690	1020	681
13	1060	941	1020	794	488	789	1180	639	e4940	1520	999	669
14	1040	1030	863	791	486	761	1020	616	3510	1630	979	658
15	1010	902	783	772	485	744	991	615	2880	2220	981	752
16	995	828	740	765	481	727	1040	611	4080	2600	983	1290
17	981	799	717	712	471	741	994	588	5710	2920	983	1190
18	965	780	698	663	462	727	897	561	6440	2850	957	903
19	947	737	677	640	457	687	836	597	5090	2410	938	763
20	931	862	669	641	464	658	851	914	3400	2120	996	706
21	912	1590	659	705	2520	715	916	1670	2700	2140	963	678
22	910	1960	659	687	4790	1410	892	1590	2950	2580	913	665
23	887	1320	646	633	6150	2340	808	1090	3300	2830	909	652
24	865	985	643	605	4600	3170	741	1300	3060	2590	883	637
25	845	895	637	588	2420	3330	699	1750	2670	2900	853	1020
26	824	845	616	573	1490	2370	674	1360	3130	2930	823	1670
27	810	835	601	569	1250	1470	651	920	2970	2420	808	1340
28	802	870	606	559	1140	1210	631	770	2420	1930	922	996
29	806	827	636	549	---	1080	641	677	2240	1690	1230	886
30	801	771	627	549	---	1210	753	636	2680	1720	1160	1460
31	826	---	679	571	---	1810	---	656	---	1620	1070	---
TOTAL	39667	28197	21879	22954	34794	39516	33449	33229	132621	75920	33530	27515
MEAN	1280	940	706	740	1243	1275	1115	1072	4421	2449	1082	917
MAX	3220	1960	1050	1350	6150	3330	2720	3120	19800	3330	1570	1670
MIN	801	729	601	549	457	658	631	561	588	1520	808	637
CFSM	2.70	1.98	1.49	1.56	2.62	2.69	2.35	2.26	9.33	5.17	2.28	1.94
IN.	3.11	2.21	1.72	1.80	2.73	3.10	2.63	2.61	10.41	5.96	2.63	2.16
AC-FT	78680	55930	43400	45530	69010	78380	66350	65910	263100	150600	66510	54580

CAL YR 1988 TOTAL 387722 MEAN 1059 MAX 5300 MIN 290 CFSM 2.23 IN 30.43 AC-FT 769000
WTR YR 1989 TOTAL 523271 MEAN 1434 MAX 19800 MIN 457 CFSM 3.03 IN 41.07 AC-FT 1038000

e Estimated

02370000 BLACKWATER RIVER NEAR BAKER, FL

LOCATION.--Lat 30°50'00", long 86°44'05", in SW$^1/_4$ sec.22, T.4 N., R.25 W., Okaloosa County, Blackwater River State Forest, Hydrologic unit 03140104, near right bank on downstream side of bridge on State Highway 4, 0.3 mi downstream from Red Wash Branch, 3.8 mi northwest of Baker, and 35 mi upstream from mouth.

DRAINAGE AREA.--205 mi^2.

PERIOD OF RECORD.--March 1950 to current year.

REVISED RECORDS.--WSP 1704: 1950 (M), 1951-52.

GAGE.--Water-stage recorder. Datum of gage is 60.5 ft above National Geodetic Vertical Datum of 1929 (from design datum of bridge curb furnished by Florida Department of Transportation).

REMARKS.--No estimated daily discharges. No estimated daily discharge. Records good.

AVERAGE DISCHARGE.--39 years, 344 ft^3/s, 22.79 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,200 ft^3/s June 4, 1970, gage height, 25.61 ft; minimum, 60 ft^3/s Sept. 7, 8, 1954; minimum gage height, 1.77 ft July 18-20, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 3	2300	2,320	9.68	June 17	1600	6,070	15.82
June 9	0300	*11,400	*19.38				

Minimum daily discharge, 98 ft^3/s, Sept. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	407	181	209	352	153	155	488	662	198	536	297	120
2	723	162	196	434	145	164	351	1040	192	604	294	163
3	1550	146	186	319	140	269	280	598	208	862	242	284
4	1950	139	181	250	138	303	247	393	257	1240	219	229
5	1120	205	176	212	136	261	558	298	203	1130	202	164
6	677	304	172	194	138	375	802	247	223	852	188	139
7	502	227	169	188	138	359	612	215	227	697	176	126
8	416	184	167	191	137	274	421	196	2680	533	167	118
9	364	162	165	194	133	233	329	183	9000	428	166	113
10	331	151	161	185	131	203	299	191	4000	381	162	110
11	303	145	187	177	130	185	377	192	1810	346	156	106
12	279	140	272	172	130	173	326	177	1220	307	150	103
13	258	161	254	173	129	161	280	163	927	305	143	101
14	240	186	220	169	129	154	250	157	675	584	144	99
15	227	173	201	184	128	147	252	154	947	402	190	108
16	218	157	193	194	125	142	258	148	3080	407	235	230
17	209	152	193	183	123	174	232	143	5580	588	199	212
18	200	167	185	170	121	176	210	138	3810	481	167	142
19	193	155	178	162	121	159	198	150	1780	433	148	121
20	187	583	173	167	124	143	554	195	1050	373	140	111
21	183	591	171	194	194	167	630	589	899	365	135	106
22	179	354	167	192	410	362	380	566	905	432	145	103
23	174	270	163	172	355	873	287	780	864	516	162	100
24	167	235	161	161	249	801	237	908	766	521	150	98
25	160	214	159	155	198	542	210	678	634	700	136	152
26	154	205	155	151	176	396	195	459	507	518	126	213
27	150	239	152	148	164	316	182	328	480	465	121	175
28	146	279	154	145	157	264	173	257	463	367	131	144
29	145	270	160	142	---	232	220	217	638	302	146	134
30	142	231	160	141	---	583	293	197	824	277	132	245
31	149	---	164	155	---	636	---	199	---	258	128	---
TOTAL	12103	6768	5604	6026	4552	9362	10131	10818	45047	16210	5297	4369
MEAN	390	226	181	194	163	303	338	349	1502	523	171	146
MAX	1950	591	272	434	410	873	802	1040	9000	1240	297	284
MIN	142	139	152	141	121	142	173	138	192	258	121	98
CFSM	1.90	1.10	.88	.95	.80	1.48	1.65	1.70	7.33	2.55	.83	.71
IN.	2.20	1.23	1.02	1.09	.83	1.70	1.84	1.96	8.17	2.94	.96	.79
AC-FT	24010	13420	11120	11950	9030	18610	20090	21460	89350	32150	10510	8670

CAL YR 1988 TOTAL 142406 MEAN 389 MAX 16400 MIN 74 CFSM 1.90 IN 25.84 AC-FT 282500
WTR YR 1989 TOTAL 136307 MEAN 373 MAX 9000 MIN 98 CFSM 1.82 IN 24.73 AC-FT 270400

02370500 BIG COLDWATER CREEK NEAR MILTON, FL

LOCATION.--Lat 30°42'30", long 86°58'20", in SW¼ sec.5, T.2 N., R.27 W., Santa Rosa County, Hydrologic Unit 03140104, near right bank on downstream side of bridge on State Highway 191, 3 mi upstream from mouth, and 6.5 mi northeast of Milton.

DRAINAGE AREA.--237 mi².

PERIOD OF RECORD.--October 1938 to June 1979, October 1979 to September 1980 (gage heights and discharge measurements only), October 1980 to current year. Monthly discharge only for some periods, published in WSP 1304. Prior to October 1956, published as Coldwater Creek near Milton. October 1956 to September 1957, published as Big Coldwater River near Milton.

REVISED RECORDS.--WSP 892: 1939. WSP 1384: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 9.10 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 2, 1938, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--49 years (water years 1938-78, 1981-89), 547 ft³/s, 31.34 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,000 ft³/s June 4, 1970, gage height, 21.41 ft, from flood mark; minimum, 156 ft³/s June 10, 11, 1956; minimum gage height, 0.94 ft Dec. 11, 1938.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base of 2,700 ft³/s and maximum (*);

Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 4	0800	3,530	8.69
June 9	2100	14,700	14.94
June 17	1000	*18,700	*16.45
July 5	2300	3,020	8.27

Minimum daily discharge, 317 ft³/s, May 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	997	495	477	544	403	395	645	671	514	1180	713	443
2	2170	496	456	656	397	411	508	1230	586	1180	721	437
3	3030	459	439	531	394	553	468	795	473	1460	582	518
4	3360	443	435	477	389	553	445	524	435	2040	534	486
5	2000	538	430	447	382	490	637	448	441	2430	505	425
6	1040	733	426	435	386	580	1040	391	611	2320	481	402
7	868	560	426	445	387	572	754	360	597	1210	462	389
8	784	490	429	458	381	486	554	355	3150	987	451	382
9	725	472	432	447	373	444	492	347	11800	845	480	375
10	693	458	435	430	368	414	482	368	8790	831	464	369
11	665	449	483	424	368	394	558	382	1670	753	446	362
12	636	437	611	425	368	382	514	358	968	656	434	358
13	606	490	549	431	371	372	468	338	826	613	426	353
14	576	590	495	424	374	367	436	333	685	623	427	350
15	556	515	477	447	374	363	449	336	1110	605	497	377
16	547	480	468	443	371	402	485	332	8090	769	509	549
17	541	487	461	420	366	629	443	324	16800	1080	522	477
18	528	485	445	409	362	489	405	317	5500	949	476	398
19	519	458	435	410	363	422	388	389	1640	864	439	373
20	513	731	432	421	367	389	381	488	1160	752	453	363
21	506	904	431	461	569	431	384	1130	1160	739	475	358
22	516	654	430	440	933	771	378	1330	1270	875	475	356
23	507	543	427	417	671	1210	371	1160	1060	1050	453	354
24	488	499	422	407	501	1190	360	1860	950	983	425	357
25	486	478	421	403	448	783	353	2390	916	1630	410	463
26	468	470	411	401	422	609	347	1060	919	1660	398	582
27	462	485	406	402	410	532	340	648	897	958	408	475
28	460	621	418	398	402	486	336	542	820	915	426	437
29	457	590	431	394	---	457	398	485	828	721	443	486
30	455	513	426	395	---	667	434	452	1110	671	515	795
31	455	---	430	404	---	956	---	455	---	650	486	---
TOTAL	26614	16023	13894	13646	11900	17199	14253	20598	75776	32999	14936	12849
MEAN	859	534	448	440	425	555	475	664	2526	1064	482	428
MAX	3360	904	611	656	933	1210	1040	2390	16800	2430	721	795
MIN	455	437	406	394	362	363	336	317	435	605	398	350
CFSM	3.62	2.25	1.89	1.86	1.79	2.34	2.00	2.80	10.7	4.49	2.03	1.81
IN.	4.18	2.51	2.18	2.14	1.87	2.70	2.24	3.23	11.89	5.18	2.34	2.02
AC-FT	52790	31780	27560	27070	23600	34110	28270	40860	150300	65450	29630	25490

CAL YR 1988 TOTAL 258559 MEAN 706 MAX 19800 MIN 240 CFSM 2.98 IN 40.58 AC-FT 512900
WTR YR 1989 TOTAL 270687 MEAN 742 MAX 16800 MIN 317 CFSM 3.13 IN 42.49 AC-FT 536900

02375500 ESCAMBIA RIVER NEAR CENTURY, FL
(National stream-quality accounting network station)

LOCATION.--Lat 30°57'54", long 87°14'03", in NW1/4 sec.10, T.5 N., R.30 W., Santa Rosa County, Hydrologic Unit 03140305, on left bank 16 ft downstream from bridge on State Highway 4, 1.2 mi downstream from Escambia Creek, 1.7 mi east of Century, and 52 mi upstream from mouth.

DRAINAGE AREA.--3,817 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1934 to current year.

REVISED RECORDS.-- WSP 1384: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 28.34 ft above National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark). Prior to Jan. 13, 1940, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharge. Records fair. Some gage-height fluctuation during periods of low flow are attributed to regulation by power plants at Point A Dam, 85.4 mi and Gnatt Dam, 90.1 mi upstream from the gaging station.

AVERAGE DISCHARGE.--55 years, 6,223 ft^3/s, 22.14 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 92,300 ft^3/s Apr. 12, 1975, gage height, 23.32 ft; minimum, 578 ft^3/s Oct. 23, 1968; minimum gage height, 1.30 ft Sept. 15, Oct. 20, 21, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1850, 37.8 ft, March 1929, present datum, discharge not determined, from information by U.S. Army Corps of Engineers, Mobile District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 36,600 ft^3/s June 18, gage height, 18.78 ft; minimum daily, 1,380 ft^3/s Sept. 15, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2560	1720	3100	3310	2130	3460	17100	4550	2610	13400	6250	1640
2	3780	1710	3090	3370	2090	3400	17200	7470	2540	13300	5530	1900
3	5840	1710	2960	3850	2130	4680	14600	8710	2580	13800	4780	2240
4	7240	1680	2740	4100	2200	6280	11000	7610	2690	15000	4240	2260
5	6400	2130	2450	4000	2190	7210	11700	6280	2700	16000	3770	2010
6	5230	2980	2290	4050	2080	7060	17500	5440	2670	16600	3490	1800
7	4470	3010	2190	3870	2210	7060	20400	4670	2970	15900	3270	1640
8	3870	2330	2080	3450	2030	6760	20300	4300	4260	14700	3030	1580
9	3310	2230	2040	2960	2460	6100	19000	3920	12000	13700	2980	1500
10	2950	2170	2010	2690	2090	5330	17900	3590	12200	12600	3030	1480
11	2610	2220	2110	2590	1650	4710	16700	3200	8880	10900	2900	1480
12	2470	2130	2530	2390	1670	3960	16200	3060	7380	9510	2520	1460
13	2170	2190	2790	2370	1830	3350	17200	2780	6360	8710	2380	1410
14	2160	2470	2480	2320	1760	3110	18200	2560	5150	7430	2260	1390
15	1980	2620	2320	2520	1780	2980	18700	2470	6200	6300	2260	1380
16	1880	2440	2300	3010	1830	2970	18200	2430	19700	5870	2300	1570
17	1880	2350	2490	3110	1830	3260	16700	2400	32200	6810	2340	1890
18	1780	2500	2420	2910	1680	3280	14900	2280	36400	8280	2350	2040
19	1760	2530	2240	2740	1590	2970	12600	2380	34900	8340	2290	1710
20	1750	2660	2250	2780	1880	2760	10500	2910	32700	8260	2290	1530
21	1710	3150	2240	2840	2350	2830	9600	5810	30600	8280	2380	1470
22	1800	3610	2300	3050	3640	4360	7700	7000	28100	7850	2410	1440
23	2220	3590	2100	2600	5040	7830	6100	6840	25700	7290	2400	1430
24	2330	3420	2200	2420	5220	10200	5040	15300	24500	8030	2310	1380
25	2400	3020	2230	2380	4940	10400	4420	14600	22000	9390	2110	1450
26	2250	2750	2080	2270	4580	10000	4210	8890	18600	9660	1850	1780
27	2000	2660	2010	2170	4170	9130	3780	5350	17600	9840	1670	2260
28	1830	2810	1860	2110	3630	8060	3590	4120	17200	9740	1860	2080
29	1970	3150	1950	2060	---	7310	3420	3640	14800	9120	1880	2020
30	1840	3250	2210	2030	---	8760	3590	3020	12400	8650	1830	2530
31	1700	---	2410	1970	---	13000	---	2920	---	7470	1710	---
TOTAL	88140	77190	72470	88290	72680	182570	378050	160500	448590	320730	86670	51750
MEAN	2843	2573	2338	2848	2596	5889	12600	5177	14950	10350	2796	1725
MAX	7240	3610	3100	4100	5220	13000	20400	15300	36400	16600	6250	2530
MIN	1700	1680	1860	1970	1590	2760	3420	2280	2540	5870	1670	1380
CFSM	.75	.67	.61	.75	.68	1.54	3.30	1.36	3.92	2.71	.73	.45
IN.	.86	.75	.71	.86	.71	1.78	3.68	1.56	4.37	3.13	.84	.50
AC-FT	174800	153100	143700	175100	144200	362100	749900	318400	889800	636200	171900	102600

CAL YR 1988 TOTAL 1652453 MEAN 4515 MAX 29100 MIN 927 CFSM 1.18 IN 16.10 AC-FT 3278000
WTR YR 1989 TOTAL 2027630 MEAN 5555 MAX 36400 MIN 1380 CFSM 1.46 IN 19.76 AC-FT 4022000

02375500 ESCAMBIA RIVER NEAR CENTURY, FL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1952 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUC-TANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
DEC 01...	1315	3080	88	7.30	13.0	9.5	8.6	81	88	48	26
MAR 08...	1300	6730	70	7.40	13.0	26	9.6	91	130	110	23
JUN 30...	1430	12000	--	7.20	25.0	16	5.6	68	56	100	26
AUG 16...	1400	2330	145	7.80	28.0	6.5	6.7	85	73	48	37

DATE	HARD-NESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA-LINITY LAB (MG/L AS CACO3)	ALKA-LINITY WAT.DIS FIELD INC.T. (MG/L CACO3)
DEC 01...	4	4	8.4	1.1	6.5	34	.6	1.3	24	22	20
MAR 08...	5	5	7.5	1.0	4.5	29	.4	1.2	20	18	16
JUN 30...	6	6	8.5	1.1	3.1	20	.3	1.0	23	20	19
AUG 16...	0	0	13	1.2	9.8	35	.7	1.1	49	37	40

DATE	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
DEC 01...	2.1	9.5	8.3	<.10	9.1	62	58	.08	516	<.010	.18
MAR 08...	1.4	9.5	6.1	.10	7.9	51	49	.07	927	<.010	.14
JUN 30...	2.4	<1.0	4.6	.10	7.5	55	--	.07	1780	<.010	.15
AUG 16...	1.1	8.0	10	.10	8.8	74	75	.10	466	<.010	.24

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)
DEC 01...	.010	.020	.03	.29	.30	.030	<.010	<.010	--	30	1
MAR 08...	.020	.020	.03	.48	.50	.050	<.010	<.010	--	30	1
JUN 30...	.030	.050	.06	.37	.40	.030	<.010	<.010	--	40	1
AUG 16...	.050	.040	.05	.35	.40	.040	.030	.020	.06	60	<1

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)
DEC 01...	21	<.5	<1	<1	<3	1	180	<5	<4	20	<.1
MAR 08...	27	<.5	1	1	<3	1	150	<5	<4	10	<.1
JUN 30...	22	<.5	<1	1	<3	2	130	1	<4	34	<.1
AUG 16...	26	<.5	<1	<1	<3	<1	790	<1	<4	57	<.1

DATE	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 01...	<10	<1	<1	<1	33	<6	<3	14	116	57
MAR 08...	<10	5	<1	2	31	<6	5	71	1290	48
JUN 30...	<10	2	<1	<1	33	<6	<3	64	2070	61
AUG 16...	<10	1	<1	<1	43	<6	7	23	145	70

02376000 PINE BARREN CREEK NEAR BARTH, FL

LOCATION.--Lat 30°47'55", long 87°22'05", in SW¼ sec.5, T.3 N., R.31 W., Escambia County, Hydrologic Unit 03140305, near right bank 10 ft downstream from Wiggins Bridge on private road, 0.3 mi upstream from Blue Water Creek, 4.0 mi northwest of Barth, and 7.3 mi upstream from mouth.

DRAINAGE AREA.--75.3 mi².

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1384: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 29.86 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

AVERAGE DISCHARGE.--37 years, 157 ft³/s, 28.31 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,800 ft³/s, Apr. 14, 1955, from rating extended above 2,100 ft³/s on basis of a slope-area measurement of peak flow; gage height, 18.0 ft from floodmark; minimum, 51 ft³/s June 8, 9, 1956; minimum gage height, 3.13 ft Sept. 3, 4, 1956; Oct. 20, 21, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum(*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
May 24	2300	1,360	11.06	June 16	0800	2,970	13.11
June 8	1800	*8,680	*15.30	June 21	1400	894	9.44

Minimum daily discharge, 64 ft³/s, May 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e210	99	95	234	84	83	92	153	73	370	102	91
2	e300	96	93	117	84	88	84	155	72	349	99	92
3	e250	94	93	103	84	160	81	92	79	499	96	90
4	e200	94	93	97	82	120	80	79	121	502	93	87
5	147	142	93	93	82	94	347	76	90	274	91	86
6	127	137	92	96	83	92	492	73	110	183	90	84
7	119	102	93	99	83	86	165	69	88	187	89	83
8	113	98	92	94	82	83	105	68	2790	147	91	81
9	111	96	93	91	80	81	95	68	3900	134	95	80
10	111	96	92	90	80	80	98	74	765	124	90	81
11	108	95	123	91	80	78	105	73	230	115	89	82
12	105	93	138	91	80	77	91	68	153	109	88	79
13	100	134	108	91	80	76	86	66	127	106	88	78
14	98	126	100	91	81	76	83	69	116	122	87	78
15	98	106	98	105	81	75	94	69	312	113	87	78
16	98	102	99	97	79	91	89	67	2150	122	91	86
17	98	107	96	90	79	87	82	66	1210	168	98	80
18	97	99	94	88	80	78	78	64	374	149	92	78
19	97	98	93	89	81	76	76	112	311	294	101	76
20	97	156	93	100	82	75	80	113	225	182	96	76
21	96	135	94	114	165	98	78	159	676	183	98	77
22	97	109	93	94	144	280	75	234	516	151	113	76
23	95	103	93	89	97	346	73	215	276	137	96	76
24	99	101	92	88	88	183	71	798	173	146	92	78
25	96	99	91	86	85	117	70	695	150	172	90	107
26	94	99	89	86	84	101	69	143	138	129	86	116
27	94	105	89	86	83	93	68	99	130	120	85	94
28	94	104	97	85	83	87	68	86	147	117	92	94
29	95	97	102	84	---	84	101	79	184	110	121	93
30	95	96	94	85	---	129	84	76	237	104	99	221
31	96	---	156	87	---	142	---	74	---	102	99	---
TOTAL	3735	3218	3061	3031	2456	3416	3260	4332	15923	5720	2924	2678
MEAN	120	107	98.7	97.8	87.7	110	109	140	531	185	94.3	89.3
MAX	300	156	156	234	165	346	492	798	3900	502	121	221
MIN	94	93	89	84	79	75	68	64	72	102	85	76
AC-FT	7410	6380	6070	6010	4870	6780	6470	8590	31580	11350	5800	5310
CFSM	1.60	1.42	1.31	1.30	1.16	1.46	1.44	1.86	7.05	2.45	1.25	1.19
IN.	1.85	1.59	1.51	1.50	1.21	1.69	1.61	2.14	7.87	2.83	1.44	1.32

CAL YR 1988 TOTAL 50984 MEAN 139 MAX 1170 MIN 67 AC-FT 101100 CFSM 1.85 IN. 25.19
WTR YR 1989 TOTAL 53754 MEAN 147 MAX 3900 MIN 64 AC-FT 106600 CFSM 1.96 IN. 26.56

e Estimated

02376033 ESCAMBIA RIVER NEAR MOLINO, FL

LOCATION.--Lat 30°40'12", long 87°16'00", in SE1/4 sec.20, T.2 N., R.20 W., Escambia County, Hydrologic Unit 03140305, near right bank on downstream side of bridge on State Highway 184, 4.1 mi northeast of Cottage Hill, and 5.5 mi southeast of Molino.

DRAINAGE AREA.--4,147 mi².

PERIOD OF RECORD.--April 1960 to September 1981 (gage heights and discharge measurements only), October 1983 to September 1987 (Daily discharges not computed for days with instantaneous gage heights below 11.5 ft), October 1987 to current year.

GAGE.--Water-stage recorder. Elevation of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow generally affected by tide when discharge is less than 5,000 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum measured discharge, 73,500 ft³/s Apr. 7, 1960, gage height, 13.44 ft; minimum measured discharge, 1,170 ft³/s Oct. 9, 1980, gage height, 0.84 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 44,600 ft³/s June 20, gage height, 9.85 ft; minimum daily discharge, 1,780 ft³/s, Feb. 9; minimum daily gage height, 0.22 ft, Feb. 9.

DISCHARGE IN CUBIC FEET PER SECOND FOR PERIOD OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2900	2210	3140	2840	2430	4740	10300	4080	3120	18100	10400	2470
2	e2800	2200	2810	3210	2410	4300	12200	4560	2780	16500	9480	2430
3	e2700	2220	2950	3550	2410	4220	15200	5210	2640	16500	8070	2370
4	e4200	2420	3100	3440	2240	4440	17100	6610	2820	16700	6730	2640
5	e6800	2610	2900	3790	2370	5250	17100	8120	3200	17100	5620	2760
6	e8200	2520	2800	4340	2420	6400	15300	8490	3400	17200	4780	2630
7	e7100	2740	2710	4510	2310	7200	14400	7370	3140	17400	4150	2390
8	e6000	3140	2630	4600	2120	7710	16500	6030	4850	17800	3690	2240
9	e5100	2810	2520	4240	1780	7860	19400	5130	15400	17600	3410	2230
10	e4500	2620	2350	3780	2080	7760	20300	4620	17400	16900	3220	2160
11	e3800	2450	2560	3310	2280	7210	19900	3830	15500	15900	3130	2150
12	e3200	2530	2620	3130	1970	6400	18800	3220	14500	14600	3000	2170
13	2820	2710	2610	2830	2070	5480	17700	3020	12700	13300	2890	2130
14	2630	2640	2790	2780	2160	4640	17100	2730	10300	11800	2820	2130
15	2560	2770	2940	2820	2110	4020	17500	2610	9450	10500	2730	2140
16	2590	3110	2510	2550	2020	3660	18300	2420	13000	9450	2720	2280
17	2520	2840	2370	2760	2030	3460	18800	2420	15900	8840	2730	2160
18	2480	2760	2290	3040	2140	3430	18500	2380	23800	7840	2660	2320
19	2390	2920	2510	3070	2050	3390	17600	2650	40500	8030	2680	2460
20	2340	3650	2700	2990	2270	3400	16300	2790	44300	9230	2580	2260
21	2440	3270	2650	2790	2820	3620	14500	3460	43700	9980	2680	2180
22	2220	3270	2570	2960	2540	4410	12800	4260	41900	10200	2980	2110
23	2350	3520	2610	2930	2310	5260	11200	5710	39500	10100	2960	2070
24	2530	3530	2550	2840	3110	6310	9540	8210	36700	9870	2790	1980
25	2590	3620	2380	2740	4240	8090	7600	10800	33800	9370	2660	2270
26	2650	3870	2360	2680	5000	10100	5880	14600	31100	9480	2530	2430
27	2680	3770	2500	2590	5230	11300	4800	15700	26900	10400	2460	2370
28	2550	3080	2390	2490	5290	11500	4150	12900	22300	11100	2440	2580
29	2360	2840	2220	2460	---	10900	3800	8820	20600	11400	2570	2710
30	2310	3140	2340	2500	---	10700	3590	5610	19600	11300	2610	3150
31	2310	---	2560	2350	---	10400	---	3840	---	11000	2550	---
TOTAL	104620	87780	80940	96910	74210	197560	416160	182200	574800	395490	116720	70370
MEAN	3375	2926	2611	3126	2650	6373	13870	5877	19160	12760	3765	2346
MAX	8200	3870	3140	4600	5290	11500	20300	15700	44300	18100	10400	3150
MIN	2220	2200	2220	2350	1780	3390	3590	2380	2640	7840	2440	1980
AC-FT	207500	174100	160500	192200	147200	391900	825500	361400	1140000	784500	231500	139600
CFSM	.81	.71	.63	.75	.64	1.54	3.35	1.42	4.62	3.08	.91	.57
IN.	.94	.79	.73	.87	.67	1.77	3.73	1.63	5.16	3.55	1.05	.63

CAL YR 1988 TOTAL 1904640 MEAN 5204 MAX 26500 MIN 1320 AC-FT 3778000 CFSM 1.25 IN. 17.09
WTR YR 1989 TOTAL 2397760 MEAN 6569 MAX 44300 MIN 1780 AC-FT 4756000 CFSM 1.58 IN. 21.51

e Estimated

ESCAMBIA RIVER BASIN

02376033 ESCAMBIA RIVER NEAR MOLINO, FL.--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1.03	1.58	1.52	1.23	2.81	4.94	2.43	1.80	6.80	5.02	1.49
2	---	1.05	1.29	1.74	1.17	2.56	5.44	2.68	1.54	6.48	4.72	1.42
3	---	1.26	1.43	2.01	1.17	2.58	6.20	3.07	1.46	6.47	4.29	1.27
4	---	1.66	1.57	1.86	.89	2.72	6.60	3.80	1.63	6.51	3.84	1.68
5	---	1.71	1.47	2.19	1.07	3.21	6.60	4.36	2.01	6.59	3.34	1.77
6	---	1.27	1.47	2.65	1.12	3.68	6.22	4.42	2.15	6.61	2.86	1.59
7	---	1.38	1.41	2.77	.91	3.96	6.02	4.06	1.97	6.66	2.49	1.39
8	---	1.76	1.40	2.81	.65	4.13	6.46	3.59	3.13	6.74	2.15	1.29
9	---	1.51	1.24	2.49	.22	4.17	7.06	3.13	6.24	6.70	1.97	1.31
10	---	1.42	1.07	2.19	.58	4.15	7.25	2.72	6.64	6.55	1.85	1.33
11	---	1.21	1.32	1.82	.89	3.99	7.16	2.17	6.26	6.33	1.79	1.23
12	---	1.37	1.30	1.75	.64	3.70	6.94	1.72	6.05	6.07	1.72	1.32
13	1.43	1.55	1.20	1.39	.88	3.31	6.72	1.57	5.59	5.74	1.70	1.26
14	1.33	1.41	1.34	1.53	.90	2.86	6.58	1.31	5.00	5.37	1.71	1.28
15	1.34	1.56	1.52	1.52	.81	2.50	6.67	1.24	4.86	5.04	1.65	1.23
16	1.46	1.99	1.03	1.12	.65	2.19	6.84	1.05	5.72	4.71	1.60	1.23
17	1.41	1.47	.88	1.36	.66	1.95	6.93	1.10	6.35	4.53	1.54	1.07
18	1.40	1.57	.84	1.58	.86	1.91	6.88	1.10	7.61	4.25	1.43	1.21
19	1.28	1.91	1.14	1.63	.72	1.85	6.69	1.47	9.33	4.30	1.42	1.32
20	1.31	2.36	1.47	1.51	1.20	1.92	6.42	1.52	9.81	4.66	1.47	1.11
21	1.50	1.84	1.39	1.32	1.72	2.12	6.05	2.04	9.74	4.89	1.66	1.07
22	1.17	1.83	1.27	1.49	1.08	2.57	5.61	2.56	9.50	4.94	1.90	1.07
23	1.41	2.03	1.32	1.42	.81	3.21	5.21	3.41	9.21	4.89	1.78	.94
24	1.45	1.97	1.28	1.35	1.54	3.63	4.74	4.33	8.86	4.85	1.62	.84
25	1.43	2.12	1.03	1.29	2.40	4.25	4.15	5.09	8.58	4.71	1.56	1.41
26	1.51	2.58	.97	1.25	2.90	4.88	3.49	6.06	8.37	4.75	1.50	1.44
27	1.57	2.44	1.25	1.17	3.15	5.21	2.88	6.29	8.04	5.01	1.46	1.27
28	1.44	1.61	1.08	1.14	3.18	5.26	2.51	5.63	7.63	5.18	1.43	1.44
29	1.22	1.37	.83	1.09	---	5.15	2.23	4.50	7.31	5.25	1.57	1.67
30	1.13	1.67	1.06	1.30	---	5.10	2.09	3.31	7.11	5.25	1.56	2.11
31	1.19	---	1.34	1.11	---	4.98	---	2.27	---	5.17	1.56	---
TOTAL	---	49.91	38.79	51.37	34.00	106.51	169.58	94.00	179.50	172.00	66.16	40.06
MEAN	---	1.66	1.25	1.66	1.21	3.44	5.65	3.03	5.98	5.55	2.13	1.34
MAX	---	2.58	1.58	2.81	3.18	5.26	7.25	6.29	9.81	6.80	5.02	2.11
MIN	---	1.03	.83	1.09	.22	1.85	2.09	1.05	1.46	4.25	1.42	.84

02376100 BAYOU MARCUS CREEK NEAR PENSACOLA, FL

LOCATION.--Lat 30°26'53", long 87°17'26", in SE1/4 sec.13, T.2 S., R.30 W., Escambia County, Hydrologic Unit 03140107, near mid channel on downstream side of eastbound bridge on U.S. Highway 90, 0.3 mi upstream from Turner's Creek, 4.5 mi upstream and 5.3 mi northwest of City Hall in Pensacola.

DRAINAGE AREA.--10.8 mi².

PERIOD OF RECORD.--February 1958 to March 1960. October 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is 11.21 ft above National Geodetic Vertical Datum of 1929. Feb. 12, 1958 to Mar. 17, 1960, water-stage recorder 100 ft upstream at present datum.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 377 ft³/s June 8, 1989, maximum gage height 5.30 ft, Sept. 13, 1959; minimum discharge, 14 ft³/s Sept. 9, 10, 1959, June 19, 1988; minimum gage height .89 ft, June 19, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 377 ft³/s June 8, gage height 4.79 ft; minimum, 18 ft³/s April 27, gage height .99 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	58	31	30	26	24	24	88	20	42	43	26
2	91	41	31	29	25	29	23	43	21	78	32	45
3	147	34	31	29	25	30	23	28	21	104	28	31
4	74	34	31	28	25	26	24	24	21	86	26	27
5	51	42	31	27	25	28	48	23	21	60	25	26
6	44	37	31	27	25	29	33	24	22	43	25	26
7	43	35	31	28	24	25	29	21	25	37	29	25
8	42	35	31	29	25	24	23	20	218	35	50	24
9	40	35	32	28	24	24	23	20	137	33	34	24
10	42	35	31	27	23	25	28	25	43	31	29	24
11	41	34	64	27	23	25	29	23	32	29	28	24
12	40	34	46	27	23	23	25	20	28	29	26	23
13	40	44	35	29	23	23	23	20	27	29	27	23
14	39	37	33	30	24	23	22	21	27	29	30	23
15	41	35	33	35	24	23	24	21	66	29	26	28
16	45	36	32	28	24	45	23	20	153	36	25	31
17	40	37	31	27	23	40	21	20	66	41	24	28
18	38	34	30	27	23	28	21	20	39	34	27	23
19	38	34	30	27	23	24	21	37	32	37	28	22
20	39	39	31	27	27	22	22	34	33	31	27	22
21	39	37	31	33	58	35	22	78	32	45	25	22
22	37	34	30	28	38	69	25	46	42	45	24	22
23	37	34	31	27	28	52	21	35	44	35	25	22
24	40	34	31	26	25	36	20	34	39	35	27	22
25	37	33	30	26	24	31	22	28	34	34	24	32
26	37	33	29	26	24	29	22	24	29	34	24	28
27	36	35	30	27	24	25	19	22	27	28	27	25
28	37	33	33	26	24	25	25	21	27	30	38	25
29	38	31	31	26	---	25	33	19	41	31	42	27
30	38	32	30	25	---	38	25	20	41	29	32	85
31	56	---	30	25	---	29	---	20	---	37	27	---
TOTAL	1509	1086	1012	861	729	934	743	899	1408	1256	904	835
MEAN	48.7	36.2	32.6	27.8	26.0	30.1	24.8	29.0	46.9	40.5	29.2	27.8
MAX	147	58	64	35	58	69	48	88	218	104	50	85
MIN	36	31	29	2	23	22	19	19	20	28	24	22
CFSM	4.35	3.23	2.91	2.48	2.32	2.69	2.21	2.59	4.19	3.62	2.61	2.48
IN.	5.01	3.61	3.36	2.86	2.42	3.10	2.47	2.99	4.68	4.17	3.00	2.77
AC-FT	2990	2150	2010	1710	1450	1850	1470	1780	2790	2490	1790	1660

CAL YR 1988 TOTAL 13742 MEAN 37.5 MAX 171 MIN 15 CFSM 3.35 IN 45.64 AC-FT 27260
WTR YR 1989 TOTAL 12176 MEAN 33.4 MAX 218 MIN 19 CFSM 2.98 IN 40.44 AC-FT 24150

02376115 ELEVENMILE CREEK NEAR PENSACOLA, FL

LOCATION.--Lat 30°29'53", long 87°20'09", in SE¼ sec.22, T.1 S., R.31 W., Escambia County, Hydrologic Unit 03140107, near left bank on downstream side of bridge on U.S. Highway 90, 1.8 mi upstream from Eightmile Creek, 4.0 mi upstream from mouth and 5.6 mi northwest of Pensacola High School in west Pensacola.

DRAINAGE AREA.--27.8 mi².

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is 10.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,310 ft³/s, June 8, 1989, gage height, 14.57 ft; minimum discharge, 29 ft³/s, Aug. 25, 1989, gage height, 3.39 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,310 ft³/s June 8, gage height, 14.57 ft; minimum discharge, 29 ft³/s Aug. 25, 1989, gage height, 3.39 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	130	108	66	72	65	62	74	185	63	222	82	68
2	203	75	66	69	63	63	69	102	58	321	78	104
3	307	71	68	70	64	68	68	72	61	360	75	71
4	139	71	67	68	63	67	68	69	61	310	76	74
5	105	83	66	68	61	73	116	65	67	278	73	66
6	93	73	66	69	61	101	91	62	90	137	73	66
7	88	70	64	68	63	79	72	63	70	120	128	63
8	86	69	65	68	59	72	70	60	2390	121	132	62
9	82	69	67	65	57	70	68	58	1120	111	94	61
10	78	68	66	65	61	68	70	61	213	91	86	58
11	78	67	102	66	63	67	79	59	150	87	80	55
12	75	67	93	66	61	62	71	59	125	80	76	54
13	74	79	76	67	61	62	69	59	112	81	73	57
14	73	72	74	68	64	62	66	61	105	90	72	57
15	73	71	72	78	64	61	68	62	590	87	71	56
16	77	69	72	70	59	82	65	63	2140	97	71	59
17	74	71	71	67	61	73	64	60	418	231	71	54
18	72	69	70	64	64	67	62	58	198	304	70	54
19	70	69	69	65	62	64	61	73	154	315	84	56
20	68	150	68	70	69	62	65	86	182	121	70	56
21	68	108	73	72	193	120	64	198	150	170	64	59
22	68	79	71	68	105	450	63	111	170	155	63	59
23	68	73	72	66	80	278	61	85	170	112	53	61
24	69	71	72	67	75	130	60	111	148	112	33	57
25	69	71	70	65	73	102	60	83	148	109	46	72
26	66	70	70	66	69	89	63	72	109	92	57	65
27	66	71	70	65	68	80	61	70	95	92	62	63
28	67	67	70	65	67	74	67	67	95	86	73	61
29	72	67	68	64	---	73	67	64	94	85	81	67
30	74	68	70	65	---	128	62	64	131	81	82	134
31	81	---	72	66	---	92	---	63	---	80	80	---
TOTAL	2813	2286	2206	2092	1975	3001	2064	2425	9677	4738	2329	1949
MEAN	90.7	76.2	71.2	67.5	70.5	96.8	68.8	78.2	323	153	75.1	65.0
MAX	307	150	102	78	193	450	116	198	2390	360	132	134
MIN	66	67	64	64	57	61	60	58	58	80	33	54
CFSM	3.26	2.74	2.56	2.43	2.54	3.48	2.48	2.81	11.6	5.50	2.70	2.34
IN.	3.76	3.06	2.95	2.80	2.64	4.02	2.76	3.24	12.95	6.34	3.12	2.61
AC-FT	5580	4530	4380	4150	3920	5950	4090	4810	19190	9400	4620	3870

CAL YR 1988 TOTAL 36632 MEAN 100 MAX 807 MIN 46 CFSM 3.60 IN 49.02 AC-FT 72660
WTR YR 1989 TOTAL 37555 MEAN 103 MAX 2390 MIN 33 CFSM 3.71 IN 50.25 AC-FT 74490

02376140 EIGHTMILE CREEK NEAR WEST PENSACOLA, FL

LOCATION.--Lat 30°28'26", long 87°19'59", in SE¼ sec.28, T.1 S., R.31 W., Escambia County, Hydrologic Unit 03140107, (West Pensacola quadrangle), near left bank on downstream side of bridge at Klondike Road, 4.4 mi northwest of Escambia High School in West Pensacola, and 5.9 mi upstream from mouth.

DRAINAGE AREA.--11.2 mi^2.

PERIOD OF RECORD.--October 1988 to September 1989.

GAGE. --Water-stage recorder. Altitude of gage is 20 ft, from topographic map.

REMARKS.--Records fair. Reservoirs upstream not regulated.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1850 ft^3/s, June 8, 1989, gage height 8.22 ft; minimum discharge, 1.0 ft^3/s, May 18, 19, 1989, gage height 1.75 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1850 ft^3/s, June 8, gage height 8.22 ft; minimum discharge, 1.0 ft^3/s, May 18, 19, 1989, gage height 1.75 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e11	e9.0	4.8	9.3	7.0	2.7	4.7	80	1.4	e9.0	e3.2	5.1
2	e16	e6.5	4.2	9.1	6.0	3.5	3.6	24	1.9	e14	e3.1	9.9
3	e24	e6.0	4.4	8.5	4.2	5.8	3.9	6.2	3.5	e15	e3.0	6.1
4	e12	e6.0	4.2	8.2	3.4	4.2	3.9	3.8	1.9	e13	e3.0	4.4
5	e9.5	e6.6	3.9	7.7	3.2	3.8	19	2.9	1.6	e11	e3.0	4.6
6	e8.6	e5.2	3.9	7.6	3.2	6.9	12	2.3	2.5	e5.7	e3.0	3.9
7	e7.9	e5.0	3.9	7.5	3.1	4.7	5.2	1.7	2.1	e5.0	e5.0	3.4
8	e7.5	e5.0	3.9	7.4	2.9	3.6	3.7	1.4	469	e4.8	e5.2	3.1
9	e7.2	5.7	3.9	7.3	2.6	2.9	3.1	1.3	161	e4.4	e3.8	3.0
10	e7.0	5.6	3.9	6.9	2.5	2.5	3.5	2.1	28	e3.8	e3.5	3.0
11	e7.0	5.3	111	6.9	2.3	2.2	7.1	2.5	10	e3.5	e3.2	2.8
12	e6.5	5.0	118	6.9	2.4	1.9	4.4	1.6	7.0	e3.2	e3.0	2.6
13	e6.0	8.8	26	6.8	2.5	1.8	3.2	1.3	e4.5	e3.3	e2.9	2.4
14	e6.0	8.4	17	6.8	2.6	1.7	2.6	1.3	e4.1	e3.6	e2.8	2.3
15	e6.6	6.6	15	11	2.2	1.7	3.1	1.3	e30	e3.6	e2.9	2.4
16	e6.5	e5.2	14	8.8	3.0	28	3.0	1.2	e80	e4.0	e3.0	2.5
17	e6.5	e4.7	12	7.3	2.2	19	2.3	1.1	e17	e9.5	e3.5	2.3
18	e6.0	e4.6	11	6.6	2.3	6.1	2.1	1.0	e8.0	e12	3.5	2.2
19	e5.9	e4.4	11	6.4	2.0	4.0	2.1	10	e6.1	e13	3.3	2.1
20	e5.6	e7.0	10	7.9	2.1	3.0	2.0	18	e7.0	e5.0	3.2	2.1
21	e5.8	e7.5	10	9.0	22	17	1.9	144	e6.0	e6.5	3.0	2.1
22	e5.9	e6.0	10	6.9	17	131	1.7	40	e6.8	e6.0	3.0	2.6
23	e5.9	e4.9	10	6.1	6.0	86	1.5	9.5	e6.8	e4.7	3.1	2.5
24	e6.0	e4.9	10	5.6	4.2	15	1.4	14	e6.0	e4.5	4.7	2.4
25	e6.0	e4.9	11	5.2	3.4	8.0	1.3	7.4	e5.9	e4.2	3.6	4.3
26	e5.7	e4.9	11	5.2	3.0	5.7	1.2	4.4	e4.4	e3.8	3.0	3.7
27	e5.5	e4.8	11	5.0	3.0	4.7	1.2	3.1	e3.8	e3.8	4.0	3.0
28	e5.8	e4.8	11	4.6	2.9	3.9	2.1	2.3	e3.8	e3.4	27	3.0
29	e6.0	5.8	10	4.4	---	3.5	3.1	1.8	e3.9	e3.4	13	3.5
30	e6.5	5.6	9.5	4.5	---	15	2.2	1.6	e5.0	e3.3	7.5	31
31	e7.0	---	9.3	7.2	---	8.8	---	1.5	---	e3.2	7.1	---
TOTAL	239.6	174.7	498.8	218.6	123.2	408.6	112.1	394.6	900.0	193.2	146.1	128.3
MEAN	7.73	5.82	16.1	7.05	4.40	13.2	3.74	12.7	30.0	6.23	4.71	4.28
MAX	24	9.0	118	11	22	131	19	144	469	15	27	31
MIN	5.5	4.4	3.9	4.4	2.0	1.7	1.2	1.0	1.4	3.2	2.8	2.1
AC-FT	475	347	989	434	244	810	222	783	1790	383	290	254
CFSM	.69	.52	1.44	.63	.39	1.18	.33	1.14	2.68	.56	.42	.38
IN.	.80	.58	1.66	.73	.41	1.36	.37	1.31	2.99	.64	.49	.43

WTR YR 1989 TOTAL 3537.8 MEAN 9.69 MAX 469 MIN 1.0 AC-FT 7020 CFSM .87 IN. 11.75

e Estimated

02376300 BRUSHY CREEK NEAR WALNUT HILL, FL

LOCATION.--Lat 30°53'21", long 87°32'24", in SE¼ sec. 4, T.4 N., R.33 W., Escambia County, Hydrologic Unit 03140106, near right bank on downstream side of county road bridge, 1,000 ft downstream from Rocky Creek, 2.0 mi west of Walnut Hill, and 7.9 mi upstream from mouth.

DRAINAGE AREA.--49 mi², approximately.

PERIOD OF RECORD.--January 1958 to current year.

REVISED RECORDS.--WSP 1906: 1958-60. WRD FL-80-4: 1958-59, 1961, 1963-65, 1967-68, 1970, 1973, 1975-79 (M).

GAGE.--Water stage recorder. Datum of gage is 118.32 ft above National Geodetic Vertical Datum of 1929. From Aug. 2, 1978, to May 14, 1985, nonrecording gage at same site and datum. From January 1958 to August 1978, water-stage recorder at present site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--31 years, 104.4 ft³/s, 28.93 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,680 ft³/s Mar. 31, 1962, gage height, 14.96 ft from rating curve extended above 2,500 ft³/s; minimum discharge, 36 ft³/s, Sept. 9-16, 1968; minimum gage height, 2.35 ft Aug. 27, 30, 1988, and May 18, 19, 1989.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
June 8	2400	*1,650	*9.96	June 16	0600	1,590	9.89

Minimum discharge, 41 ft³/s May 18, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	58	58	68	52	56	65	99	49	365	71	62
2	121	58	57	60	52	72	59	98	48	344	68	59
3	106	57	56	57	51	160	54	60	48	344	66	59
4	82	57	56	56	50	81	54	53	49	346	64	57
5	72	103	55	55	50	67	255	50	47	225	62	57
6	66	77	55	55	50	72	255	49	54	132	61	56
7	64	63	56	55	51	63	92	46	51	112	60	55
8	62	61	56	55	51	56	71	45	684	107	60	54
9	62	59	56	54	50	54	64	44	1040	122	60	53
10	61	59	56	53	50	52	63	46	319	105	60	53
11	60	58	70	54	50	50	63	47	106	85	60	52
12	60	57	76	54	49	49	58	45	82	78	59	52
13	58	78	65	54	49	48	55	43	73	76	58	51
14	58	74	60	55	50	48	54	44	69	81	58	51
15	58	65	59	75	50	53	76	44	482	83	61	52
16	58	61	59	65	49	56	67	43	1130	84	59	58
17	58	60	59	57	49	54	57	42	513	90	58	52
18	58	58	57	55	52	53	53	41	204	92	58	51
19	58	58	56	55	52	52	51	61	163	92	58	51
20	58	76	56	66	51	51	56	73	160	84	58	51
21	58	73	56	77	112	67	54	190	378	103	61	51
22	59	63	56	61	121	107	51	439	251	91	66	51
23	57	60	56	56	67	158	49	231	121	114	60	50
24	57	59	56	55	58	104	47	551	124	135	60	52
25	57	58	55	54	55	74	47	350	145	111	58	66
26	57	58	54	53	54	65	46	98	97	97	56	87
27	57	67	54	53	52	61	45	72	106	114	56	65
28	57	69	59	52	52	57	46	62	113	83	63	62
29	58	62	60	51	---	55	56	55	225	76	71	61
30	58	59	57	52	---	115	51	52	168	81	69	101
31	58	---	61	53	---	90	---	50	---	77	67	---
TOTAL	2003	1925	1802	1775	1579	2200	2114	3223	7099	4129	1906	1732
MEAN	64.6	64.2	58.1	57.3	56.4	71.0	70.5	104	237	133	61.5	57.7
MAX	121	103	76	77	121	160	255	551	1130	365	71	101
MIN	57	57	54	51	49	48	45	41	47	76	56	50
CFSM	1.32	1.31	1.19	1.17	1.15	1.45	1.44	2.12	4.84	2.71	1.26	1.18
IN.	1.52	1.46	1.37	1.35	1.20	1.67	1.60	2.45	5.39	3.13	1.45	1.31
AC-FT	3970	3820	3570	3520	3130	4360	4190	6390	14080	8190	3780	3440

CAL YR 1988 TOTAL 28701 MEAN 78.4 MAX 523 MIN 44 CFSM 1.60 IN 21.79 AC-FT 56930
WTR YR 1989 TOTAL 31487 MEAN 86.3 MAX 1130 MIN 41 CFSM 1.76 IN 23.90 AC-FT 62450

02376500 PERDIDO RIVER AT BARRINEAU PARK, FL
(National stream-quality accounting network station)

LOCATION.--Lat 30°41'25", long 87°26'25", in NW1/4 sec.23, T.4 S., R.6 E., Baldwin County, Ala., Hydrologic Unit 03140106, on right bank 25 ft downstream from bridge on county road, 1,000 ft downstream from Alligator Creek, 0.5 mi southwest of Barrineau Park, and 27 mi upstream from mouth.

DRAINAGE AREA.--394 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1941 to current year.

REVISED RECORDS.--WSP 1384: Drainage area. WRD FL-76-4: 1973-75 (M).

GAGE.--Water-stage recorder. Datum of gage is 25.77 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 22, 1949, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--48 years, 759 ft^3/s 26.16 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft^3/s Apr. 15, 1955, gage height, 23.94 ft, from rating curve extended above 11,400 ft^3/s, based on slope-area study made in 1955; minimum, 188 ft^3/s Oct. 12-18, 1973; minimum gage height, 1.24 ft Oct. 1-6, 15-17, 20-25, 28-31, Nov. 1-3, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 15, 1929, reached a stage of 25.7 ft present datum, from information by local resident (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
June 9	0800	*16,800	*18.85	June 16	2300	7,190	14.12

Minimum discharge, 241 ft^3/s May 19, gage height, 1.53 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1090	355	378	480	321	346	470	435	329	1720	553	376
2	1720	352	370	420	318	358	406	651	316	1700	496	382
3	2200	343	361	386	315	488	374	555	320	2240	465	358
4	1460	339	355	368	311	685	353	451	323	2800	424	341
5	981	390	350	353	308	666	673	393	328	2820	395	332
6	767	481	346	347	308	628	1240	355	398	2040	372	327
7	622	461	345	352	307	558	1180	321	385	1520	355	322
8	527	411	343	348	306	466	1410	295	2580	1120	343	316
9	476	382	343	342	303	417	871	279	14700	1030	342	313
10	454	367	341	335	299	385	558	280	9460	954	337	309
11	437	359	386	334	297	359	491	276	5250	852	331	305
12	422	350	488	334	296	340	435	268	2520	716	326	303
13	406	389	479	335	297	326	396	257	1060	614	323	303
14	394	459	441	340	298	317	371	254	702	565	318	300
15	386	460	416	371	299	309	378	255	1060	559	333	303
16	381	427	399	426	296	341	394	254	4830	599	328	314
17	376	410	389	419	293	368	382	255	6160	814	325	310
18	371	389	384	398	302	332	358	247	4240	731	329	302
19	367	376	375	384	320	314	341	318	2710	784	329	298
20	364	559	367	379	328	303	334	383	1750	760	345	297
21	361	561	363	444	459	326	334	718	1890	1010	387	298
22	361	462	361	461	714	679	326	892	1800	1040	404	300
23	357	425	358	433	654	1160	314	1240	1770	1220	374	302
24	356	403	354	413	522	1060	301	2570	1180	1450	367	305
25	359	388	352	384	463	815	290	2390	1140	1220	355	359
26	350	380	347	359	412	707	281	1460	979	1020	336	431
27	345	382	341	347	378	595	274	1020	812	985	330	464
28	343	393	344	339	355	468	268	652	750	877	362	415
29	343	389	367	331	---	403	279	456	930	704	407	392
30	343	384	364	323	---	471	298	385	1160	585	431	534
31	343	---	368	321	---	558	---	352	---	597	392	---
TOTAL	18062	12226	11575	11606	10079	15548	14380	18917	71832	35646	11514	10211
MEAN	583	408	373	374	360	502	479	610	2394	1150	371	340
MAX	2200	561	488	480	714	1160	1410	2570	14700	2820	553	534
MIN	343	339	341	321	293	303	268	247	316	559	318	297
AC-FT	35830	24250	22960	23020	19990	30840	28520	37520	142500	70700	22840	20250
CFSM	1.48	1.03	.95	.95	.91	1.27	1.22	1.55	6.08	2.92	.94	.86
IN.	1.71	1.15	1.09	1.10	.95	1.47	1.36	1.79	6.78	3.37	1.09	.96

CAL YR 1988 TOTAL 237726 MEAN 650 MAX 3890 MIN 212 AC-FT 471500 CFSM 1.65 IN. 22.45
WTR YR 1989 TOTAL 241596 MEAN 662 MAX 14700 MIN 247 AC-FT 479200 CFSM 1.68 IN. 22.81

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1957 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUC-TANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV											
30...	1030	385	23	6.10	14.5	2.2	8.8	85	110	29	4
MAR											
07...	1400	547	26	5.40	13.5	2.8	9.6	92	290	59	5
JUN											
07...	1200	383	25	6.20	23.0	1.6	6.8	79	170	280	4
AUG											
17...	1400	323	24	6.10	25.0	1.9	8.4	101	K520	K8	4

DATE	HARD-NESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA-LINITY LAB (MG/L AS CACO3)	ALKA-LINITY WAT.DIS FIELD INC.T. (MG/L CACO3)
NOV											
30...	2	2	.74	.62	2.1	48	.4	.40	<1	2.0	<1
MAR											
07...	3	3	.85	.71	2.2	46	.4	.40	<1	2.0	<1
JUN											
07...	2	2	.83	.57	2.5	52	.5	.40	<1	2.0	<1
AUG											
17...	2	2	.80	.59	2.3	51	.5	.30	2	2.0	2

DATE	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
NOV											
30...	3.1	3.3	4.0	<.10	8.1	25	21	.03	26	<.010	.24
MAR											
07...	15	4.6	4.0	.10	7.8	23	22	.03	34	<.010	.15
JUN											
07...	2.4	1.0	3.8	.10	7.8	18	18	.02	19	<.010	.18
AUG											
17...	3.1	<1.0	4.0	.10	7.3	15	--	.02	13	<.010	.23

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
NOV											
30...	.030	.020	.03	--	<.20	.020	<.010	<.010	30	<1	19
MAR											
07...	<.010	<.010	--	--	.30	.020	<.010	<.010	90	<1	36
JUN											
07...	<.010	.030	.04	--	.20	.020	<.010	<.010	60	<1	20
AUG											
17...	.030	<.010	--	.87	.90	.020	<.010	<.010	50	<1	17

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)
NOV 30...	<.5	1	<1	<3	<1	42	<5	<4	18	<.1
MAR 07...	<.5	5	<1	<3	1	100	<5	<4	45	<.1
JUN 07...	<.5	<1	<1	<3	<1	140	<1	<4	25	.3
AUG 17...	<.5	<1	<1	<3	<1	190	1	<4	13	.1

DATE	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN 062 MM
NOV 30...	<10	<1	<1	<1	7	<6	8	2	2.1	50
MAR 07...	<10	4	<1	<1	9	<6	11	18	27	44
JUN 07...	<10	<1	<1	<1	8	<6	3	5	5.2	100
AUG 17...	<10	1	<1	<1	9	<6	8	7	6.1	86

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage and flood-hydrograph partial-record stations are presented in a table of annual maximum stage and discharge. Discharge measurements made at miscellaneous sites for both low flows and high flows are given in a second table.

Crest-stage and flood-hydrograph partial-record stations

The following table contains annual maximum discharges for crest-stage and flood hydrograph stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A flood hydrograph station is a continual-record station that records the river stage of storm events above a base stage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage and flood-hydrograph partial-record stations during water year 1989

Station No.	Station Name	Location	Drainage area (mi^2)	Period of Record	Annual Maximum Date	Gage height (feet)	Discharge (ft^3/s)
		Alapaha River Basin					
02317630	Alapaha River near Jasper, Fla.	Lat 30°31'42", long 83°02'17", in SE1/4 sec.32, T.2 N., R.13 E., Hamilton County, Hydrologic Unit 03110202, at bridge on U.S. Highway 41, 5.4 mi upstream from mouth. Datum of gage is National Geodetic Vertical Datum of 1929.	[ab]1720	1948 1966-77 1979-82 1985-89	03-12-88	<59.00	<1,930
		St. Marks River Basin					
[c]02326825	Northeast drainage ditch at Hadley Road at Tallahassee, Fla.	Lat 30°30'12", long 84°14'17", in NW1/4 sec.9, T.1 N, R.1 E., Leon County, Hydrologic Unit 03120001, on left bank, 5 ft upstream from culvert on Hadley Road, 0.5 mi west along Raymond Diehl Road from Olson Road, and 5.2 mi northeast of the Florida Capitol Building at Tallahassee. Elevation of gage is 135 ft above National Geodetic Vertical Datum of 1929, from topographic map. Discontinued 9-30-89.	0.79	1979-83 1987-89	06-09-89	5.96	125
[c]02326828	Northeast drainage ditch at Capital Circle Tallahassee, Fla.	Lat 30°28'42", long 84°14'12", in SW1/4 sec.16, T.1 N., R.1 E., Leon County, Hydrologic Unit 03120001, on right bank, 20 ft upstream from culverts on Capital Circle Northeast, 2.6 mi north of the Federal Correctional Institution, and 3.9 mi northeast of the Florida Capitol Building at Tallahassee. Datum of gage is 62.26 ft above National Geodetic Vertical Datum of 1929. Discontinued 9-30-89.	3.98	1979-89	08-27-89	17.58	187
[c]02326835	McCord Park Pond Outlet at Cline Street at Tallahassee, Fla.	Lat 30°28'17", long 84°15'37", in NW1/4 sec.20, T.1 N, R.1 E., Leon County, Hydrologic Unit 03120001, on right bank, 12 ft upstream from culvert on Cline Street and 1.0 mi north of Tallahassee Memorial Regional Medical Center, at Tallahassee. Discontinued 9-30-89.	2.60	1989	08-27-89	7.61	147

See footnotes at end of table.

Annual maximum discharge at crest-stage and flood-hydrograph partial-record stations during water year 1989--Continued

					Annual Maximum		
Station No.	Station Name	Location	Drainage area (mi²)	Period of Record	Date	Gage height (feet)	Discharge (ft³/s)
		St. Marks River Basin--continued					
[c]02326836	McCord Park Pond drainage ditch at Centerville Road at Tallahassee, Fla.	Lat 30°28'09", long 84°15'01", in SE1/4 sec.20, T.1 N, R.1 E., Leon County, Hydrologic Unit 03120001, on right bank, 20 ft upstream from culvert on Centerville Road, 1.1 mi northeast of Tallahassee Memorial Regional Medical Center, and 2.9 mi northeast of the Florida Capitol Building at Tallahassee. Datum of gage is 71.08 ft above National Geodetic Vertical Datum of 1929. Discontinued 9-30-89.	2.91	1979-83 1987-89	05-10-89 08-27-89	73.01 73.01	163 163
[c]0232683603	McCord Park Pond drainage ditch below Centerville Road at Tallahassee, FLa.	Lat 30°28'07", long 84°14'58", in SE1/4 sec.20, T.1 N., R.1 E., Leon County, Hydrologic Unit 03120001, near right bank, 100 ft downstream from Centerville Road, 1 mi west of Capital Circle East, and 1.2 mi east of Tallahassee Memorial Regional Medical Center. Datum of gage is National Geodetic Vertical Datum of 1929. Discontinued 9-30-89.	3.44	1987-89	08-29-89	70.77	261
[c]02326838	Northeast drainage ditch at Miccosukee Road at Tallahassee, Fla.	Lat 30°27'50", long 84°14'24", in SW1/4 sec.21, T.1 N., R.1 E., Leon County, Hydrologic Unit 03120001, on right bank, 20 ft upstream from culverts on Miccosukee Road, 0.2 mi east of County Prison Farm, and 3.1 mi northeast of the Florida Capitol Building at Tallahassee. Datum of gage is 58.18 ft above National Geodetic Vertical Datum of 1929. Discontinued 9-30-89.	[d]9.83	1979-89	08-29-89	3.69	181
[c]02326842	Governors Mall drainage ditch at Park Avenue at Tallahassee, Fla.	Lat 30°26'29", long 84°14'41", in SE1/4 sec.32, T.1 N., R.1 E., Leon County, Hydrologic Unit 03120001, on left bank on upstream side of culvert on Park Avenue, 1.1 mi west of Federal Correctional Institution, and 2.2 mi east of Florida Capitol Building at Tallahassee. Datum of gage is 76.96 ft above National Geodetic Vertical Datum of 1929. Discontinued 9-30-89.	1.04	1979-83 1986-89	11-27-88	5.24	44
[c]02326845	Northeast drainage ditch at Weems Road at Tallahassee, Fla.	Lat 30°27'19", long 84°13'21", in SW1/4 sec.27, T.1 N., R.1 E., Leon County, Hydrologic Unit 0312001, on right bank, 10 ft upstream from concrete weir on Weems Road, 3.6 mi east of Florida Capitol Building at Tallahassee. Datum of gage is 45.32 ft above National Geodetic Vertical Datum of 1929. Discontinued 9-30-89.	17.1[e]	1979-83[f] 1986-89	08-29-89	3.88	365
[c]02326865	Lake Kanturk Outlet at Tallahassee, Fla.	Lat 30°31'37", long 84°11'28", in SW1/4 sec.36, T.2 N., R.1 E., Leon County, Hydrologic Unit 03120001, at right bank 30 ft upstream of culvert on Centerville Road, 9 mi north of the Florida Capitol at Tallahassee, Fla. Datum of gage is 73.89 ft above National Geodetic Vertical Datum of 1929. Discontinued 9-30-89.	15.0[g]	1987-89	09-02-89	2.19	5.4
[c]0232701150	West drainage ditch at Mission Road at Tallahassee, Fla.	Lat 30°27'25", long 84°20'30", in NW1/4 sec.28, T.1 N., R.1 W., Leon County, Hydrologic Unit 03120001, in center of upstream entrance to two pipe arch culverts, 3100 ft south of the intersection of Mission Road and Tharpe Street, and one and one-half miles west of Godby High School. Discontinued 9-30-89.	4.18	1987-89	06-09-89	43.60	608

See footnotes at end of table.

Annual maximum discharge at crest-stage and flood-hydrograph partial-record stations during water year 1989--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of Record	Annual Maximum Date	Annual Maximum Gage height (feet)	Annual Maximum Discharge (ft^3/s)
		St. Marks River Basin--continued					
c02327012	West drainage ditch at Roberts Avenue at Tallahassee, Fla.	Lat 30°25'46", long 84°19'46", in NE1/4 sec.4, T.1 S., R.1 W., Leon County, Hydrologic Unit 03120001, on left bank 30 ft upstream from bridge on Roberts Avenue, 0.4 mi northeast of Sabal Palm Elementary School, and 2.9 mi west of the Florida Capitol Building at Tallahassee. Datum of gage is 37.69 ft above National Geodetic Vertical Datum of 1929. Discontinued 9-30-89.	20.9[h]	1979-83 1985-89	06-19-89	8.92	880
c023270128	Central drainage ditch at Tennessee Street at Tallahassee, Fla.	Lat 30°26'44", long 84°17'44", in NE1/4 sec.35, T.1 N., R.1 W., Leon County, Hydrologic Unit 03120001, in center channel, 250 ft upstream from U.S. Highway 90, one mile northwest of the State Capitol Bldg., 3.3 mi above the mouth of Munson Slough. Discontinued 9-30-89.	1.27	1986-89	10-03-88	7.34	527
[c]02327013	Central drainage ditch at Airport Drive at Tallahassee, Fla.	Lat 30°25'59", long 84°18'18", in NW1/4 sec.2, T.1 S., R.1 W., Leon County, Hydrologic Unit 03120001, on left bank 5 ft downstream from bridge on Airport Drive, 0.3 mi south of Campbell Stadium, and 1.4 mi west of the Florida Capitol Building at Tallahassee. Datum of gage is 47.99 ft above National Geodetic Vertical Datum of 1929. Discontinued 9-30-89.	3.29	1979-83 1987-89	08-27-89	10.94	1,780
[c]0232701370	St. Augustine Branch at Gadsden Street at Tallahassee, Fla.	Lat 30°26'02", long 84°16'41", in NE1/4 sec.1, T.1 S., R.1 W., Leon County, Hydrologic Unit 03120001, on right upstream side of downstream foot bridge, 200 ft east of Gadsden Street, 1800 ft southeast of the Florida Capitol Building, 1450 ft south of Apalachee Parkway. Datum of gage is 73.07 ft above National Geodetic Vertical Datum of 1929. Discontinued 9-30-89.	1.52	1987-89	08-29-89	21.71	670
[c]02327014	St. Augustine Branch at Wahnish Way at Tallahassee, Fla.	Lat 30°25'55", long 84°17'24", in NW1/4 sec.1, T.1 S., R.1 W., Leon County, Hydrologic Unit 03120001, on left bank 30 ft upstream from bridge on Wahnish Way, 0.2 mi south of Tallahassee train depot, and 0.6 mi southwest of Florida Capitol Building at Tallahassee. Datum of gage is 64.93 ft above National Geodetic Vertical Datum of 1929. Discontinued 9-30-89.	[i]2.18	1979-89	08-27-89	8.16	986
[c]02327015	Central drainage ditch at Orange Avenue at Tallahassee, Fla.	Lat 30°24'48", long 84°18'18", in NW1/4 sec.11, T.1 S., R.1 W., Leon County, Hydrologic Unit 03120001, on right bank 70 ft upstream from culverts on Orange Avenue, 2.2 mi southwest of the Florida Capitol Building at Tallahassee. Datum of gage is 30.58 ft above National Geodetic Vertical Datum of 1929. (Florida Department of Transportation bench mark.) Discontinued 9-30-89.	[i]8.23	1979-83 1986-89	08-27-89	8.30	2.620

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage and flood-hydrograph partial-record stations during water year 1989--Continued

					Annual Maximum		
Station No.	Station Name	Location	Drainage area (mi^2)	Period of Record	Date	Gage height (feet)	Discharge (ft^3/s)
		St. Marks River Basin--continued					
[c]302549 084152900	East drainage ditch at Apakin Nene at Tallahassee, Fla.	Lat 30°25'48", long 84°15'29", in NW1/4 sec.5, T.1 S., R.1 E., Leon County, Hydrologic Unit 03120001, on left bank 8 ft upstream from culvert on Apakin Nene, 0.5 mi southeast of Parkway Shopping Center, and 1.5 mi east of Florida Capitol Building at Tallahassee. Elevation of gage is 110 ft above National Geodetic Vertical Datum of 1929, from topographic map. Discontinued 9-30-89.	0.21	1979-89	11-27-88	4.82	100
		Ochlockonee River Basin					
02329490	Willacoochee Cr. near Quincy, Fla.	Lat 30°38'13", long 84°30'02", in NE1/4 sec.26, T.3 N., R.3 W., Gadsden County, Hydrologic Unit 03120003, at bridge on State Highway 161, 1.6 mi southwest of Branchville, and 5.6 mi northeast of Quincy. Datum of gage 106.42 ft above National Geodetic Vertical Datum of 1929.	64.9	1974-77 1979-89	06-10-89	7.42	1,960
02329877	Ocklawaha Creek near Wetumpka, Fla.	Lat 30°27'01", long 84°38'36", in SW1/4 sec.28, T.1 N., R.4 W., Gadsden County, Hydrologic Unit 0312003, at bridge on State Highway 267, 2.5 mi south of Wetumpka. Elevation of gage is 75 ft above National Geodetic Vertical Datum of 1929, from topographic map.	28.8	1975-77 1979-89	06-10-89	5.10	612
		Apalachicola River Basin					
02359035	Fourmile Creek at Clarksville, Fla.	Lat 30°26'41", long 85°10'59", in NW1/4 sec.31, T.1 N., R.9 W., Calhoun County, Hydrologic Unit 03130012, near right bank on downstream side of bridge on State Highway 73, 0.6 mi north of Clarksville and 1.5 mi above the mouth. Datum of gage is 36.88 ft above National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark).	36.0	1980-89	06-11-89	8.60	861
		Choctawhatchee River Basin					
02365435	Wrights Creek near Bonifay, Fla.	Lat 30°51'56", long 85°41'41", in SW1/4 sec.1, T.5 N., R.15 W., Holmes County, Hydrologic Unit 03140203, at left bank on downstream side of bridge on State Highway 177, 2.5 mi upstream from Tenmile Creek, 4.9 mi north of Bonifay, and 14.5 mi upstream from mouth.	72.4	1981-89	06-09-89	16.76	6,770

See footnotes at end of table.

Annual maximum discharge at crest-stage and flood-hydrograph partial-record stations during water year 1989--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of Record	Annual Maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Choctawhatchee River Basin--continued					
02365700	Sandy Creek at Ponce de Leon, Fla.	Lat 30°43'28", long 85°56'12", in SE1/4 sec.28, T.4 N., R.17 W., Holmes County, Hydrologic Unit 03140203, at abandoned bridge downstream from bridge on State Highway 81 at Ponce de Leon and 10 mi upstream from mouth. Datum of gage is 42.94 ft above National Geodetic Vertical Datum of 1929.	[j]116	1961-89	10-13-75	9.83	2,210[j]
					11-28-76	9.97	2,330[j]
					03-08-78	13.21	6,700[j]
					02-24-79	13.89	8,040[j]
					03-24-80	9.82	2,200[j]
					02-11-81	8.81	1,430[j]
					02-03-82	12.14	4,910[j]
					12-05-82	10.95	3,340[j]
					03-06-84	9.65	2,050[j]
					- - 85	<7.01	<550[j]
					03-14-86	10.51	2,850[j]
					03-81-87	9.27	1,750[j]
					09-10-88	10.86	3,230[j]
					06-09-89	16.82	15,900
02366000	Holmes Creek near Vernon, Fla.	Lat 30°37'35", long 85°42'45", in NE1/4 sec.35, T.3 N., R.15 W., Washington County, Hydrologic Unit 03140203, near left bank on downstream side of bridge on State Highway 79 at Vernon, 0.2 mi downstream from Pippin Mill Creek and 25 mi upstream from mouth. Datum of gage is 10.70 ft above National Geodetic Vertical Datum of 1929.	386	1950-81[f]	02-12-86	21.15	9,740[j]
				1982-85[k]	03-06-87	17.46	4,160[j]
				1986-89	03-09-88	19.65	7,250
					06-11-89	22.95	13,100
		Blackwater River Basin					
02370250	Big Juniper Creek near Spring Hill, Fla.	Lat 30°47'06", long 86°53'28" in NE1/4 sec.12, T.3 N., R.27 W., Santa Rosa County, Hydrologic Unit 03140104, near center of channel on upstream side of bridge, 2.5 mi downstream from Sweetwater Creek, 3.2 mi east of Spring Hill, 8.3 mi above mouth, and 8.7 mi northwest of Harold. Elevation of gage is 33 ft above National Geodetic Vertical Datum of 1929, from topographic map. Discontinued 9-30-89.	113	1981-89	06-09-89	15.24	[l]

a Approximately
b Does not include Little Alapaha River
c Flood-hydrograph Station
d Of which 0.19 mi^2 is noncontributing
e Of which 1.2 mi^2 is noncontributing
f Operated as continual record-gaging station
g Of which 4.7 mi^2 is noncontributing
h Of which 5.0 mi^2 is noncontributing
i Of which 0.12 mi^2 is noncontributing
j Corrected
k Miscellaneous discharge measurements only
l Not determined

Miscellaneous sites

Discharge measurements in the following table were made at miscellaneous sites throughout the Suwannee River Water Management District.

Discharge measurements made at miscellaneous sites during water year 1989

Station No.	Station Name	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		WACCASASSA RIVER BASIN				
02313448	Little Waccasassa River near Bronson, Fla.	Lat 29°28'34", long 82°41'13", in NW¼ sec.2, T.12 S., R.16 E., (Bronson Quadrangle), Hydrologic Unit 03110101 near right bank on downstream side of bridge on U.S. Highway Alt. 27, 0.3 mile west of junction of State Highway 339, about 2¾ miles upstream from Waccasassa River and 3.7 miles northwest of Bronson, Levy County.	18.0	1980-81	05-11-89 06-01-89	No Flow No Flow
02313522	MaGee Branch near Bronson, Fla.	Lat 29°21'04", long 82°38'17", SW¼ sec.17, R.17 E., T.13 S., Levy County, Hydrologic Unit 03110101, at culvert on State Highway 343, 6.6 mi south of Bronson, and 7.4 mi upstream from mouth.	43.3	1980-81	05-11-89 06-01-89	Dry Dry
02313536	Waccasassa Trib. near Gulf Hammock, Fla.	Lat 29°16'08", long 82°44'00", in NW sec.17, T.14 S., R.16 E., at culvert on U.S. Highway 19, 1.7 miles northwest of Gulf Hammock, Levy County, Fla., Hydrologic Unit 03110101, .75 miles south of Waccasassa River.	Not Determined	1945-48	05-11-89 06-01-89	Dry Dry
02313614	Wekiva River near Gulf Hammock, Fla.	Lat 29°16'41", long 82°41'15", in SW¼ sec.11, T.14 S., R.16 E., Levy County, Hydrologic Unit 03110101, at culvert on State Highway 343, 2.8 mi northeast of Gulf Hammock.	30.1	1932 1980-81	05-11-89 06-01-89	57.1 54.8
02314098	Cow Creek near Gulf Hammock, Fla.	Lat 29°12'37", long 82°41'50", in NW¼ sec.4, T.15 S., R.16 E., Levy County, Hydrologic Unit 03110101, at bridge on U.S. Highway 19, 3.3 mi southeast of Gulf Hammock.	19.5	1964-65 1967 1980-81	05-11-89 06-01-89	0.01 Est. No Flow
02314134	Sand Slough near Lebanon Station, Fla.	Lat 29°11'17", long 82°41'01", in SW¼ sec.10, T.15 S., R.16 E., Levy County, Hydrologic Unit 03110101, at culvert on U.S. Highway 19, 3.3 mi northwest of Lebanon Station.	32.3	1964 1980 1981	05-11-89 06-01-89	Dry Dry
02314170	Tenmile Creek near Dunnellon, Fla.	Lat 29°06'27", long 82°33'27", T.16 S., R.17 E., in NE¼ sec. 11, Levy County, (Yankeetown quadrangle), Hydrologic Unit 03110101, at State Highway 336, 1.7 mi southeast of Tidewater, 7.4 mi northwest of Dunnellon, and 7.7 mi upstream from mouth.	3.7	1980-81	05-11-89 06-01-89	Dry Dry
		SUWANNEE RIVER BASIN				
302430082 384500	Little Creek near Benton, Fla.	Lat 30°24'30", long 82°38'45", in NE¼ sec.18, T.1 S., R.17 E., Columbia County, Hydrologic Unit 03110201, at left bank, 5.4 mi sough of Benton and 8.5 mi north- east of White Springs.	Not Determined	1977-78	05-11-89 06-02-89	No meas.* 0.18
02314986	Rocky Creek near Belmont, Fla.	Lat 30°32'40", long 82°44'02", in SE¼ sec. 29, T.2 N., R.16 E., Hamilton County, Hydrologic Unit 03110201, at bridge on county road, 1.4 mi upstream from mouth, 3.0 mi north of Belmont, and 12 mi east of Bakers Mill.	50.0	1977-82	05-11-89 06-02-89	0.40 0.02

Discharge measurements made at miscellaneous sites during water year 1989--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		SUWANNEE RIVER BASIN--Continued				
02315005	Hunter Creek near Belmont, Fla.	Lat 30°29'08", long 82°42'44", in SE¼ sec.16, T.1 N., R.16 E., Hamilton County, Hydrologic Unit 03110201, on left bank 30 ft downstream from bridge on State Highway 135, 0.8 mi upstream from mouth, and 1.6 mi southeast of Belmont.	Not Determined	1983-88	05-11-89 06-02-89	1.02 0.58
02315090	Roaring Creek near Belmont, Fla.	Lat 30°25'50", long 82°40'00", Hamilton County, Hydrologic Unit 03110201, at bridge on State Highway 125, 5.8 mi southeast of Belmont.	17.5	1970 1977-78 1984-88	05-11-89 06-02-89	0.34 0.21
02315200	Deep Creek near Suwannee Valley, Fla.	Lat 30°21'55", long 82°37'13", in NW¼ sec.33, T.1 S., R.17 E., Columbia County, Hydrologic Unit 03110201, near left bank on upstream side of bridge on US Highway 441, 4.0 mi upstream from mouth, 7.2 mi northeast of Suwannee Valley, 12.2 mi north of Lake City.	88.6	1965 1967 1976-81	05-11-89 06-02-89	No Meas.* 0.46
02315392	Robinson Creek near Suwannee Valley, Fla.	Lat 30°18'44", long 82°38'34", in SW¼ sec.17, T.2 S., R.17 E., Hydrologic Unit 03110201, at bridge on Corinth Road, 4.1 miles east of Suwannee Valley, Columbia County, Fla.	27.4	1967 1976-82	05-11-89 06-02-89	No Meas.* 0.44
02315470	Falling Creek near Winfield, Fla.	Lat 30°40'06", long 82°40'06", in NE¼ sec.1, T.3 S., R.16 E., Columbia County, Hydrologic Unit 03110201, near center of span on downstream side of bridge on State Highway 131, 1.1 mi north of intersection of State Highway 131 and U.S. 41, 1.2 mi east of Winfield, and 5.1 mi north of City Hall in Lake City.	52.9	1977-82	05-11-89 06-02-89	No Meas.* 0.08
02315520	Swift Creek at Facil, Fla.	Lat 30°22'14", long 82°48'00", in SE¼ sec.27, T.1 S., R.15 E., Hamilton County, Hydrologic Unit 03110201, near right bank on downstream side of bridge on U.S. Highway 41, 0.5 mi northwest of Facil, 2.8 mi upstream from mouth, and 3.0 mi southeast of Genoa.	Not Determined	1984-89	05-11-89 06-02-89	40.8* 11.7
302227082 514800	Jerry Branch near Genoa, Fla.	Lat 30°22'27", long 82°51'48", in NE¼ sec.25, T.1 S., R.14 E., Suwannee County, Hydrologic Unit 03110201, at culvert on Interstate Highway I-75, 2.5 mi southwest of Genoa, Fla.	Not Determined	1977	05-10-89 06-02-89	No Flow Dry
02315532	Rocky Creek near Houston, Fla.	Lat 30°18'56", long 82°50'42", in NW¼ sec.17, T.2 S., R.15 E., Suwannee County, Hydrologic Unit 03110201, at bridge on State Highway 136, 2.5 mi upstream from mouth, 5.3 mi northeast of Houston, 5.5 mi west of White Springs, 6.0 mi northwest of Wellborn and 8.8 mi east of Live Oak.	25.4	1967 1978-82	05-11-89 06-02-89	0.62* Dry
02315542	Camp Branch near Genoa, Fla.	Lat 30°24'25", long 82°51'54", in NE¼ sec.13, T.1 S., R.14 E., Hamilton County, Hydrologic Unit 03110201, at culvert on State Highway S-132, 1.8 mi west of Genoa, 1.8 mi south of Camps Still, and 3.5 mi upstream from mouth.	6.1	1978-82	05-10-89 06-02-89	0.07 Est. No Flow

Discharge measurements made at miscellaneous sites during water year 1989--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		SUWANNEE RIVER BASIN--Continued				
02320732	Alligator Creek at Starke, Fla.	Lat 29°56'10", long 82°06'43", in NW¼ sec.33, T.6 S., R.22 E., Bradford County, Hydrologic Unit 03110206, at bridge on State Highway 301 at Starke, 0.5 mi south of intersection of U.S. Highway 301 and State Highway 100, and 13 mi upstream from mouth.	19.4	1956 1963 1965 1967 1976-77 1981	05-11-89 06-01-89	2.6 0.87
02320800	Sampson River at Sampson City, Fla.	Lat 29°55'07", long 82°12'39", in NW¼ sec.4, T.7 S., R.21 E., Hydrologic Unit 03110206, on downstream side of culvert on State Highway 225, 0.4 mi downstream from Lake Sampson 5.9 mi upstream from mouth and 6.3 mi southwest of Starke.	59.7	1957-60 1965 1967 1975-77	05-11-89 06-01-89	0.92 0.84
02320950	Water Oak Creek near Starke, Fla.	Lat 30°01'40", long 82°09'20", in NE¼ sec.36, T.5 S., R.21 E., Bradford County, Hydrologic Unit 03110206, at bridge on State Highway 16, 0.1 mi north of Hillburn Spring, 4.5 mi upstream from mouth and 7.6 mi northwest of Starke, Fla.	20.7	1957-60 1965 1967	05-11-89 06-01-89	No Flow Dry
02320960	Water Oak Creek near Lawtev, Fla.	Lat 30°01'51", Long 82°11'26", in SE¼ sec.27, T.5 S., R.21 E., Bradford County, Hydrologic Unit 03110206, at bridge on State Highway 22S, 2.0 mi upstream from mouth, 3.4 mi southeast of Raiford, and 7.1 mi west of Lawtey, Fla.	39.0	1957 1976-77 1979	05-11-89 06-01-89	0.29 0.09
02321000	New River near Lake Butler, Fla.	Lat 29°59'53", Long 82°16'27", in SE¼ sec.2, T.6 S., R.20, E., Union County, Hydrologic Unit 03110206, at bridge on State Highway 100, 4.5 mi southeast of Lake Butler and 14 mi upstream from mouth.	193	1973-75 1977	05-10-89 06-01-89	2.2 1.66
02321200	Richard Creek near Lake Butler, Fla.	Lat 30°01'10", long 82°18'59", in NE¼ sec.32, T.5 S., R.20 E., Hydrologic Unit 03110206, on downstream side of culvert on State Highway 100, 1.6 miles east of Lake Butler, Union County, and 4.4 miles upstream from mouth.	13.9	1957-60 1965 1967	05-10-89 06-01-89	Dry Dry
02321600	Olustee Creek near Lulu, Fla.	Lat 30°05'42", long 82°28'25", in SW¼ sec.36, T.4 S., R.18 E., Columbia County, Hydrologic Unit 03110206, at bridge on State Highway 100, 1.4 mi southeast of Lulu, 7.4 mi upstream from Swift Creek, and 17.6 mi upstream from mouth. Datum of gage is 100.00 ft National Geodetic Vertical Datum of 1929.	49.1	1965-67 1969-73 1975-78 1989	05-10-89 06-01-89	0.10 No Flow
02321700	Swift Creek near Lake Butler, Fla.	Lat 30°03'28", long 82°25'10", in NW¼ sec.16, T.5 S., R.19 E., Union County, Hydrologic Unit 03110206, at bridge on State Highway 100, at Gulford, 5 mi northwest of Lake Butler and 8.1 mi upstream from mouth. Datum of gage is 109.56 ft National Geodetic Vertical Datum of 1929.	46.0	1957-60 1964 1966 1968-71	05-10-89 06-01-89	No Flow Dry

Discharge measurements made at miscellaneous sites during water year 1989--Continued

SUWANNEE RIVER BASIN--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Measurements Discharge (ft^3/s)
02321800	Olustee Creek near Providence, Fla.	Lat 30°00'14", long 82°34'20", in NW¼ sec.1, T.6 S., R.17 E., (Ellisville Quadrangle Advance), Union County, Hydrologic Unit 03110206, at downstream side of bridge on State Highway 238, 1.5 mi west of Providence, 13.8 mi west of Lake Butler, and 7 mi upstream from mouth..	163	1956-60 1965 1967-76 1989	05-10-89 06-01-89	No Flow No Flow
02321898	Santa Fe River at O'Leno State Park, Fla.	Lat 29°54'51", long 82°34'48", in NE¼ sec.2, T.7 S., R.17 E., Alachua County, Hydrologic Unit 03110206, near left bank on downstream side of footbridge at Oleno State Park, 0.5 mi upstream from submergence, 4.8 mi west of Blan, and 36 mi upstream from mouth.	820	1961 1977-82	05-12-89 06-01-89	17.4 1689
02322000	Santa Fe River near High Springs, Fla.	Lat 29°50'33", long 82°37'52", in NE¼ sec. 32, T.7 S., R.17 E., Columbia County, Hydrologic Unit 03110206, near right bank at upstream side of bridge on U.S. Highway 27, 150 ft upstream from Atlantic Coast Line Railroad bridge and 2 miles northwest of High Springs, Alachua County.	950	1933-59 1964-70	05-11-89 06-01-89	183 170
02322700	Ichetucknee River near Hildreth, Fla.	Lat 29°57'09", long 82°47'10", in NW sec.23, T.6 S., R.15 E., Suwannee County, on Ichatucknee River, near center span on upstream side of bridge on Highway 27, 2 miles downstream from head of springs, 1 mile east of Hildreth and 2 miles upstream from mouth.	Not Determined	1917 1929-30 1931-77 1989	06-01-89	264
02322590	Cow Creek near Fort White, Fla.	Lat 29°51'21", long 82°45'24", in SW¼ sec.19, T.7 S., R.16 E., Gilchrist County, Hydrologic Unit 03110206, on downstream side of culvert on Stage Highway 138, 1.0 mi west of State Highway 47, 4.3 mi upstream from mouth and 5.2 mi south of Fort White.	89	1975-77	05-11-89 06-02-89	1.10 0.50
02322660	Rose Creek near Columbia, Fla.	Lat 30°04'23", long 82°40'38", in NE¼ sec.11, T.5 S., R.16 E., Columbia County, Hydrologic Unit 03110206, on downstream side of bridge on Walter Little Road, 0.2 mi north from State Highway 240, 1.4 mi east of Columiba and 0.9 mi upstream from mouth.	26.2	1975-77	05-11-89	Dry

STEINHATCHEE RIVER BASIN

Station No.	Station Name	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Measurements Discharge (ft^3/s)
02323870	Steinhatchee River near Mayo, Fla.	Lat 29°50'32", long 83°18'30", in SE¼ sec.27, T.7 S., R.10 E., Lafayette County, Hydrologic Unit 03110102 at birdge on graded road, 16.6 mi southwest of Mayo, Lafayette County, Fla.	Not Determined	1956 1965-67	06-01-89	1.82

FENHOLLOWAY RIVER BASIN

Station No.	Station Name	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Measurements Discharge (ft^3/s)
02324474	Fenholloway River at County Rd at Fenholloway, Fla.	Lat 29°04'35", long 63°29'47", in SE¼ sec.2, T.5 S., R.8 E., Taylor County, Hydrologic Unit 03110102, at bridge on county road, 0.1 mile southeast of Fenholloway.	Not Determined	1954-56 1966-67	05-10-89	Dry

Discharge measurements made at miscellaneous sites during water year 1989--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Measurements Discharge (ft^3/s)
		ECONFINA RIVER BASIN				
02325950	Econfina River near Eridu, Fla.	Lat 30°15'03", long 83°42'04", in SW¼ sec.2, T.3 S., R.6 E., Hydrologic Unit 03110102, at bridge on U.S. Highway 27, 4.4 miles southeast of Eridu, Taylor County, Fla.	158	1965-67	05-10-89	1.45

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* Local rains could have affected runoff.

ELEVATION OF LAKES

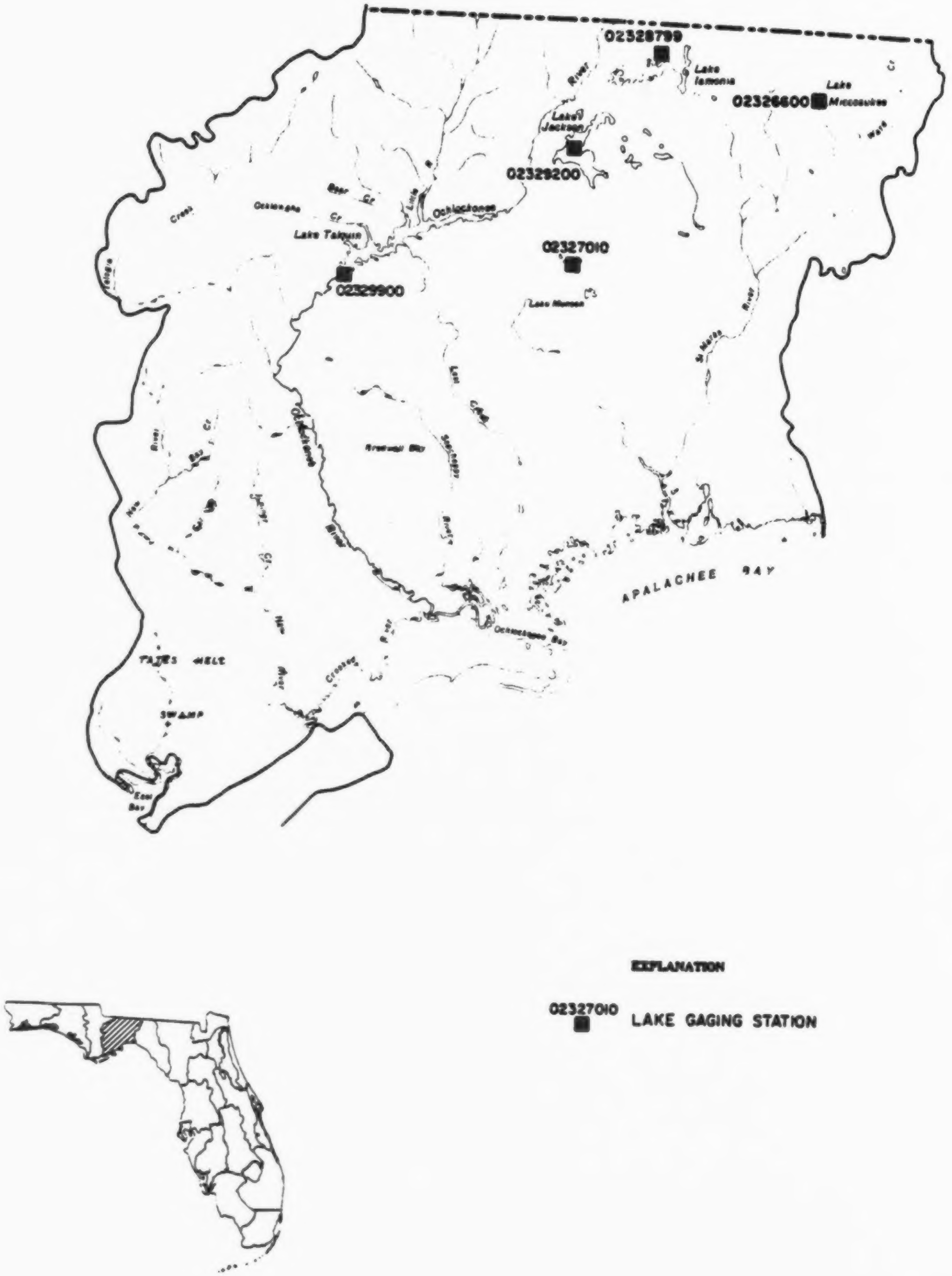

02328799
Lake Iamonia
Lake Miccosukee
02326600
Lake Jackson
02329200
Ochlockonee
Bear Cr
Ocklawaha Cr
Creek
Lake Talquin
Telogia
02327010
02329900
Lake Munson
St Marks River
Apalachee Bay
Ochlockonee Bay
Crooked River
Tates Hell
Swamp
East Bay
EXPLANATION
02327010
LAKE GAGING STATION

Figure 23.–Location of lake gaging stations in the St. Marks, and Cchlockonee River basins.

02326600 LAKE MICCOSUKEE NEAR MICCOSUKEE, FL

LOCATION.--Lat 30°36'14", long 84°00'15", in NW¼ sec.2, T.2 N., R.3 E., Jefferson County, Hydrologic Unit 03120001, at fish camp on west shore of lake, 2.3 mi northeast of Miccosukee, Leon County.

SURFACE AREA.--6,312 acres (9.86 mi²) at elevation 80 ft above NGVD.

DRAINAGE AREA.--240 mi².

PERIOD OF RECORD.--August 1965 to September 1972 (weekly); October 1972 to November 1983 (periodically); November 1983 to current year (once-daily).

GAGE.--Nonrecording gage. Datum of gage is 66.46 ft National Geodetic Vertical Datum of 1929. Gage readings have been reduced to elevations NGVD.

REMARKS.--Lake elevation is controlled by two structures. The outflow at the south end has fixed timber pile dam. An earthen dam, with a fixed concrete spillway and an underdrain consisting of a 7 ft culvert with lift gate, encircles a sinkhole at north end of lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 82.64 ft Apr. 7, 1973; minimum observed, 71.00 ft May 20, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum elevation observed, 78.41 ft, July 28; minimum observed 71.00, May 20.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	77.26	76.34	75.46	73.26	71.50	73.06	73.92	71.83	71.50	77.02	78.16	77.98
10	77.11	76.14	75.24	71.91	71.42	72.76	72.86	71.46	73.16	77.12	78.02	77.96
15	76.92	75.96	75.18	71.67	71.37	72.16	72.26	71.37	76.16	77.12	77.85	77.83
20	76.66	75.76	74.94	71.57	71.36	71.66	72.36	71.00	76.60	77.66	77.65	77.66
25	76.58	75.64	74.66	71.64	72.76	74.36	71.86	72.96	76.77	78.26	77.44	77.56
EOM	76.40	75.66	74.16	71.60	72.58	74.30	71.56	71.86	76.86	78.31	77.86	77.46
MEAN	76.88	75.94	75.02	72.08	71.75	72.93	72.67	71.77	74.94	77.52	77.85	77.77
MAX	77.30	76.36	75.60	74.06	72.82	74.46	74.16	72.96	76.86	78.41	78.29	77.98
MIN	76.40	75.52	74.16	71.56	71.36	71.56	71.56	71.00	71.46	76.90	77.43	77.46

WTR YR 1989 TOTAL 27294.86 MEAN 74.78 MAX 78.41 JUL 28 MIN 71.00 MAY 20

02327010 LAKE BRADFORD NEAR TALLAHASSEE, FL

LOCATION.--Lat 30°24'10", long 84°20'05", in NE¼ sec.16, T.1 S., R.1 W., Leon County, Hydrologic Unit 03120001, on east shore of lake at Florida State University dock, 4.0 mi southwest of State Capitol Building, Tallahassee. Auxillary staff gage 0.8 mi north.

SURFACE AREA.--182 acres, (0.28 mi²) at elevation 31 ft NGVD.

DRAINAGE AREA.--20.6 mi².

PERIOD OF RECORD.--February to December 1954, (weekly, incomplete); January 1955 to June 1960, (bimonthly, incomplete); July 1960 to November 1961 (monthly); January 1962 to October 1979 (bimonthly); January 1980 to current year (fragmentary). Published since October 1960.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929. Apr. 8, 1955 to Mar. 2, 1956, nonrecording gage at site 600 ft northwest at datum 19.53 ft higher. Since January, 1980, an auxillary nonrecording gage 0.8 mi northeast at present datum.

REMARKS.--Lake is a chain of lakes connected by Bradford Brook. When the lake level is high it is connected with two smaller lakes to the northwest - Lake Hiawatha and Lake Minnehaha. Surface outflow to the northeast is through Bradford Brook into Grassy Lake, thence into Munson Slough, and is controlled by three culverts, elevation 31.7 ft. Loss to ground water through sinkholes on the east shore was reduced by plugging in March 1954.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 37.08 ft April 5, 1973; minimum observed, 21.00 ft June 26, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum elevation observed, 33.18 ft July 25, 26,27; minimum observed, 27.94 ft, May 9.

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	29.86	---	---	---	---		---	---	31.15	32.98	32.62
10	30.27	---	---	---	---	---		---	28.38	32.50	32.86	32.46
15	---	---	29.50	---	---	---		---	---	32.89	32.71	32.26
20	---	---	---	---	---	---		---	29.52	33.01	32.64	---
25	---	---	---	---	---	---		---	---	33.18	32.46	31.98
EOM	---	---	---	---	28.60	28.40		---	---	33.10	32.55	32.01
MEAN	30.15	29.79	29.53	29.00	28.59	28.47		27.99	29.31	32.46	32.73	32.29
MAX	30.38	29.86	29.64	29.20	28.68	28.58		28.05	30.10	33.18	33.07	32.64
MIN	29.92	29.67	29.40	28.80	28.50	28.40		27.94	28.19	30.42	32.46	31.92

WTR YR 1989 TOTAL 4019.66 MEAN 31.40 MAX 33.18 JUL 25 AND OTHERS MIN 27.94 MAY 9

02328799 LAKE IAMONIA NEAR BRADFORDVILLE, FL

LOCATION.--Lat 30°38'37", long 84°11'45", in SE¼ sec.23, T.3 N., R.1 E., Leon County, Hydrologic Unit 03120003, at south side of drawdown control structure, 2100 ft east of county public landing road, 1.2 mi southeast of Tall Timbers Research Center, and 5.7 mi north of Bradfordville.

SURFACE AREA.--5,680 acres (8.9 mi²) at elevation, 98 ft NGVD.

DRAINAGE AREA.--101 mi².

PERIOD OF RECORD.--April 1919 to June 1937, 1957, 1963 (fragmentary); December 1974 to October 1975 (weekly); November 1975 to September 1977; February 1979 to September 1981 (weekly), October 1981 to September 1982 (monthly), November 1982 to May 1983 (fragmentary), November 1983 to current year. Records published since February 1979.

GAGE.--Water-stage recorder. Datum of gage is 82.00 ft above National Geodetic Vertical Datum of 1929. April 1919 to June 1937, at various sites and datums. December 1974 to October 1975, at site 0.9 mi northwest at datum 13.44 ft higher. November 1975 to September 1977, water-stage recorder at site 0.9 mi northwest at present datum. February 1979 to May 1983, nonrecording gage at site 0.9 mi northwest at same datum. November 1983 to May 1985, water-stage recorder at site 0.9 mi northwest at same datum. Gage heights have been reduced to elevations NGVD.

REMARKS.--Ochlockonee River overflows into lake at high stages.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 106.22 ft, Feb. 13, 1986, from floodmarks; minimum, 94.60 ft, June 5, 1989.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 4, 1948, reached at stage of 106.97 ft from floodmarks from information by local resident. Lake dry, May 7, 1910, and in 1917 (month unknown), and Nov. 8, 1934, furnished by Dr. Komarek, Tall Timbers Research Center.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 97.50 ft, Oct. 3; minimum, 94.60 ft, June 5.

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	97.45	96.97	96.60	96.29	95.94	95.85	95.52	95.11	94.63	96.08	96.51	96.25
10	97.33	96.88	96.54	96.22	95.89	95.75	95.45	95.02	95.30	96.10	96.40	96.16
15	97.22	96.81	96.55	96.19	95.80	95.66	95.41	94.93	95.36	96.18	96.35	96.03
20	97.13	96.76	96.49	96.15	95.71	95.55	95.33	94.78	95.74	96.22	96.24	95.92
25	97.06	96.71	96.44	96.07	95.87	95.71	95.20	94.95	96.05	96.47	96.13	e95.81
EOM	96.99	96.69	96.36	96.01	95.85	95.66	95.11	94.75	96.03	96.56	96.28	e95.91
MEAN	97.22	96.82	96.52	96.17	95.87	95.71	95.36	94.94	95.42	96.25	96.34	96.05
MAX	97.48	96.98	96.67	96.36	96.00	95.87	95.61	95.20	96.06	96.56	96.58	96.32
MIN	96.99	96.69	96.36	96.01	95.71	95.55	95.11	94.75	94.63	96.05	96.13	95.81

WTR YR 1989 MEAN 96.06 MAX 97.48 MIN 94.63

e Estimated

02329200 LAKE JACKSON NEAR TALLAHASSEE, FL

LOCATION.--Lat 30°31'43", long 84°21'30", in SW1/4 sec.32, T.2 N., R.1 W., Leon County, Hydrologic Unit 03120003, on southwest side of lake, east of U.S. Highway 27, and 6.0 mi northwest of Tallahassee.

SURFACE AREA.--4,001 acres (6.25 mi^2), at elevation 87 ft NGVD.

DRAINAGE AREA.--43.2 mi^2.

PERIOD OF RECORD.--March 1950 to January 1953, March 1954 to August 1956, September 1956 to August 1958 (fragmentary), September 1958 to current year. Records of elevation prior to October 1960 are available in file of the Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Lake has no surface outlet. Some outflow from lake through sinkhole to ground water.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily elevation, 96.16 ft June 18, 1966 (from recorded range in stage); minimum observed, 75.68 ft Jan. 4, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum daily elevations, 85.67 ft, Oct. 3; minimum daily estimated 82.68 ft, June 5.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	85.64	e85.11	84.70	e84.39	83.92	83.81	83.45	83.09	e82.68	84.41	84.32	84.45
10	85.52	e85.04	84.64	84.29	83.83	83.69	83.37	82.96	83.55	84.45	84.23	84.33
15	85.42	84.95	84.66	84.23	83.76	83.55	83.31	82.93	83.69	84.42	84.15	84.19
20	e85.34	84.88	e84.59	e84.16	83.67	83.49	83.25	82.81	84.14	84.41	e84.05	84.05
25	e85.27	84.82	e84.53	e84.08	e83.63	e83.66	83.15	e82.96	84.43	84.53	83.91	84.02
EOM	e85.18	84.81	e84.45	e83.97	83.75	83.55	e83.02	82.83	84.37	84.40	84.37	84.20
MEAN	85.42	84.96	84.62	84.21	83.80	83.64	83.28	82.94	83.68	84.44	84.19	84.23
MAX	85.67	85.17	84.77	84.44	83.95	83.82	83.53	83.15	84.43	84.55	84.38	84.51
MIN	85.18	84.81	84.45	83.97	83.63	83.45	83.01	82.75	82.68	84.37	83.90	83.96

WTR YR 1989 MEAN 84.12 MAX 85.67 MIN 82.68

e Estimated

02329900 LAKE TALQUIN NEAR BLOXHAM, FL

LOCATION.--Lat 30°23'15",long 84°38'45", in SW¼ sec. 16, T.1 S., R.4 W., Leon County, Hydrologic Unit 03120003, at left upstream end of C.H. Corn Hydroelectric Dam on Ochlockonee River, 1.0 mi northwest of Bloxham, and 3.5 mi downstream from Oklawaha Creek.

SURFACE AREA.--6,850 acres (10.7 mi²), at elevation 60.0 ft NGVD, from data provided by Florida Power Corporation.

DRAINAGE AREA.--1,700 mi².

PERIOD OF RECORD.--January 1930 to September 1950 (month-end contents only, published only in WSP 1304); October 1951 to September 1960 (month-end elevations and contents); October 1960 to September 1982, March 1985 to current year (month-end elevations, contents and daily elevations).

REVISED RECORDS.--WSP 1905, WRD FL-76-4: Drainage area.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Florida Power Corp.).

REMARKS.--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway is equipped with seven taintor gates, each 16 ft high by 25 ft wide. Storage began in June 1929; water in lake first reached minimum operating level January 1930. Usable capacity, 69,800 acre-ft between elevations, 60.0 ft, minimum operating level, and 68.5 ft, top of closed taintor gates. Contents given herein are above minimum operating level. Dead storage is unknown.

COOPERATION.--Records provided by City of Tallahassee, Electric Department.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 99,400 acre-ft Sept. 22, 1969, elevation, 71.16 ft; maximum instantaneous elevation, 71.60 ft Sept. 22, 1969; minimum daily elevation after January 1930, 48.70 ft, Oct. 22,23, 1957 (earth embankment breached).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 76,900 acre-ft June 10, elevation, 69.19 ft; minimum daily contents, 64,800 acre-ft Sept. 24; elevation, 68.00 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	68.59	70,700	--
Oct. 31	68.57	70,500	- 200
Nov. 30	68.53	70,100	- 500
Dec. 31	68.58	70,600	+ 500
CAL YR 1988			+ 100
Jan. 31	68.57	70,500	- 100
Feb. 28	68.57	70,500	0
Mar. 31	68.51	69,900	- 600
Apr. 30	68.52	70,000	+ 100
May 31	68.51	69,900	- 100
June 30	68.53	70,100	+ 200
July 31	68.44	69,200	- 900
Aug. 31	68.50	69,800	+ 600
Sept. 30	68.46	69,400	- 400
WTR YR 1989			-1,300

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	68.74	68.64	68.56	68.51	68.54	68.61	68.61	68.51	68.51	68.51	68.33	68.56
10	68.46	68.51	68.54	68.57	68.57	68.48	68.53	68.49	69.19	68.44	68.45	68.49
15	68.49	68.57	68.54	68.54	68.57	68.61	68.58	68.56	68.39	68.52	68.28	68.51
20	68.50	68.59	68.54	68.56	68.52	68.56	68.57	68.46	68.41	68.81	68.61	68.53
25	68.50	68.52	68.54	68.55	68.64	68.39	68.51	68.74	68.60	68.77	68.57	68.18
EOM	68.57	68.53	68.58	68.57	68.57	68.51	68.52	68.51	68.53	68.44	68.50	68.46
MEAN	68.54	68.56	68.55	68.55	68.58	68.54	68.56	68.55	68.53	68.59	68.47	68.46
MAX	68.80	68.67	68.64	68.61	68.76	68.72	68.65	68.74	69.19	68.92	68.64	68.60
MIN	68.46	68.48	68.49	68.49	68.52	68.36	68.48	68.45	68.34	68.42	68.28	68.00

WTR YR 1989 TOTAL 25017.21 MEAN 68.54 MAX 69.19 JUN 10 MIN 68.00 SEP 24

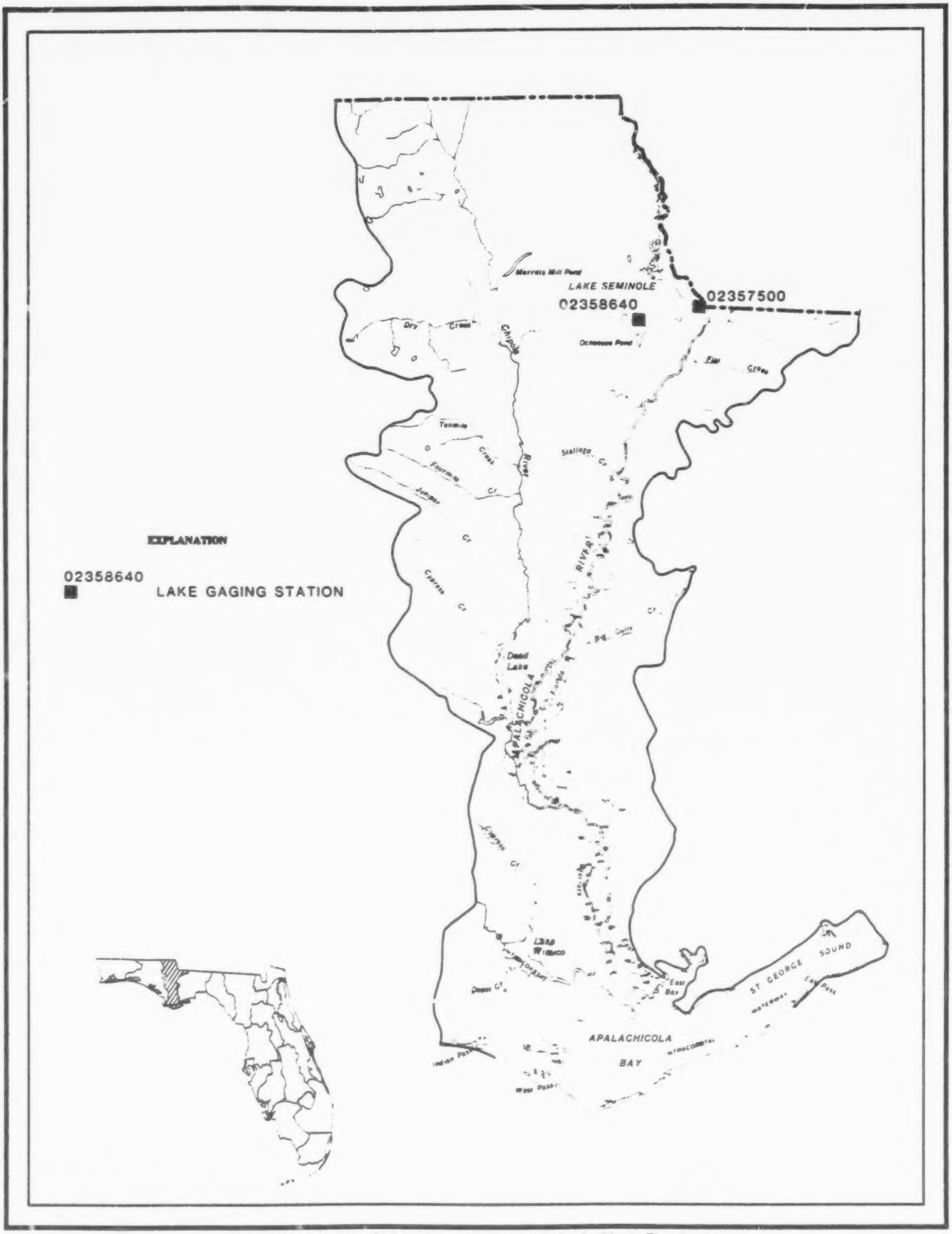

Merritts Mill Pond
LAKE SEMINOLE
02358640
02357500
Ochessee Pond
Dry Creek
Chipola
Flat Creek
Tenmile Creek
Fourmile Cr
Juniper
River
RIVER
Cypress Cr
Cr
Big Gully
Cr
Dead Lake
APALACHICOLA
Cypress Cr
Lake Wimico
Dead Cr
East Bay
ST GEORGE SOUND
East Pass
APALACHICOLA BAY
Indian Pass
West Pass
EXPLANATION
02358640
LAKE GAGING STATION

Figure 24.–Location of lake gaging stations in the Apalachicola River basin.

02357500 LAKE SEMINOLE AT CHATTAHOOCHEE, FL

LOCATION.--Lat 30°42'29", long 84°51'56", in NE1/4 sec. 31, T.4 N., R.6 W., Jackson County, Hydrologic Unit 03130004, near left bank in the control house of Jim Woodruff Dam on Chattahoochee River, 0.6 mi upstream from bridge on U.S. Highway 90, and 1.5 mi northwest of Chattahoochee.

SURFACE AREA.--37,500 acres (58.6 mi^2), at elevation 77.0 ft NGVD, from data provided by U.S. Army Corps of Engineers.

DRAINAGE AREA.--17,100 mi^2, approximately.

PERIOD OF RECORD.--July 1954 to September 1960 (monthend elevations and contents); October 1960 to current year (daily elevations and contents). Prior to October 1959, published as Jim Woodruff Reservoir at Chattahoochee.

REVISED RECORDS.--WSP 1554: 1955-57, WRD FL-83-4: 1983.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to July 22, 1957, nonrecording gage at same site at datum 53.96 ft higher. Prior to 1981, on right upstream lock wall at same datum.

REMARKS.--Reservoir is formed by earthfill dam with concrete fixed-crest spillway, a center channel spillway with 16 vertical lift gates 40 ft long and 20.5 ft high, and a side channel navigation lock 82 ft wide. Total capacity at elevation 77.0 ft, normal pool, is 367,320 acre-ft, of which 36,170 acre-ft between elevation 77.0 ft and 76.0 ft are used for pondage. Gates closed on May 20, 1954; filling of lake accomplished in several stages between that date and Feb. 4, 1957, when the pool first reached normal operating level, elevation 77.0 ft. Figures given herein represent total contents. Lake is used for navigation and power.

COOPERATION.--Daily and monthend elevations and contents provided by U.S. Army Corps of Engineers, Mobile District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 433,300 acre-ft Apr. 7, 8, 1960, elevation, 78.66 ft; minimum contents after Feb. 4, 1957, 272,100 ft Nov. 27, 1978, elevation, 74.18 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 398,800 acre-ft June 17, elevation, 77.81 ft; minimum contents, 321,800 acre-ft Feb. 16, elevation, 75.72 ft.

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	77.01	--	--
Oct. 31	76.20	338,300	-29,400
Nov. 30	76.39	345,200	+ 6,900
Dec. 31	76.28	341,200	- 4,000
CAL YR 1988			-16,400
Jan. 31	76.41	345,900	+ 4,700
Feb. 29	76.75	358,200	+12,300
Mar. 31	77.23	376,200	+19,000
Apr. 30	76.79	359,700	-16,500
May 31	77.02	368,100	+ 8,400
June 30	77.39	382,500	+14,400
July 31	77.08	370,400	-12,100
Aug. 31	77.13	372,300	+ 1,900
Sept. 30	77.00	367,300	- 5,000
WTR YR 1989			- 400

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

Daily elevations were not available at time of publication.

02358640 OCHEESEE POND NEAR SNEADS, FL

LOCATION.--Lat 30°41'32", long 84°58'21", in NW¼ sec.6, T.3 N., R.7 W., Jackson County, Hydrologic Unit 03130004, near north shore of lake, 1.8 mi southeast of Grand Ridge, and 4.2 mi west of Sneads.

SURFACE AREA.--2,230 acres (3.5 mi^2).

DRAINAGE AREA.--24.2 mi^2.

PERIOD OF RECORD.--September and October 1979 (one observation each month); December 1979 to November 1980 (weekly); March 1981 to current year (fragmentary). Records of daily elevations, October 1948 to March 1950, provided by U.S. Army Corps of Engineers, are available in files of the Geological Survey.

GAGE.--Nonrecording gage. Datum of gage is 17.68 ft above National Geodetic Vertical Datum of 1929. Since December 31, 1982, auxiliary nonrecording gage at site 300 ft north at datum 2.02 ft lower. Prior to May 21, 1981, nonrecording gage at different site at datum 89.68 ft higher. October 1948 to March 1950, nonrecording gage established by U.S. Army Corps of Engineers, at site on south shore of lake at datum 86.21 ft higher.

REMARKS.--Outflow from the lake is through two ditches below SR 280 at south end of lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 114.7 ft Mar. 6, 1984, provided by local resident; minimum observed, 105.62 ft Oct. 13, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation observed, 117.97 ft Oct. 22, 1948, provided by U.S. Army Corps of Engineers.

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV			JUL		
04...	1250	108.22	10...	1300	108.67
JAN			SEP		
23...	1315	106.94	13...	1245	108.73
MAY					
16...	0940	106.60			

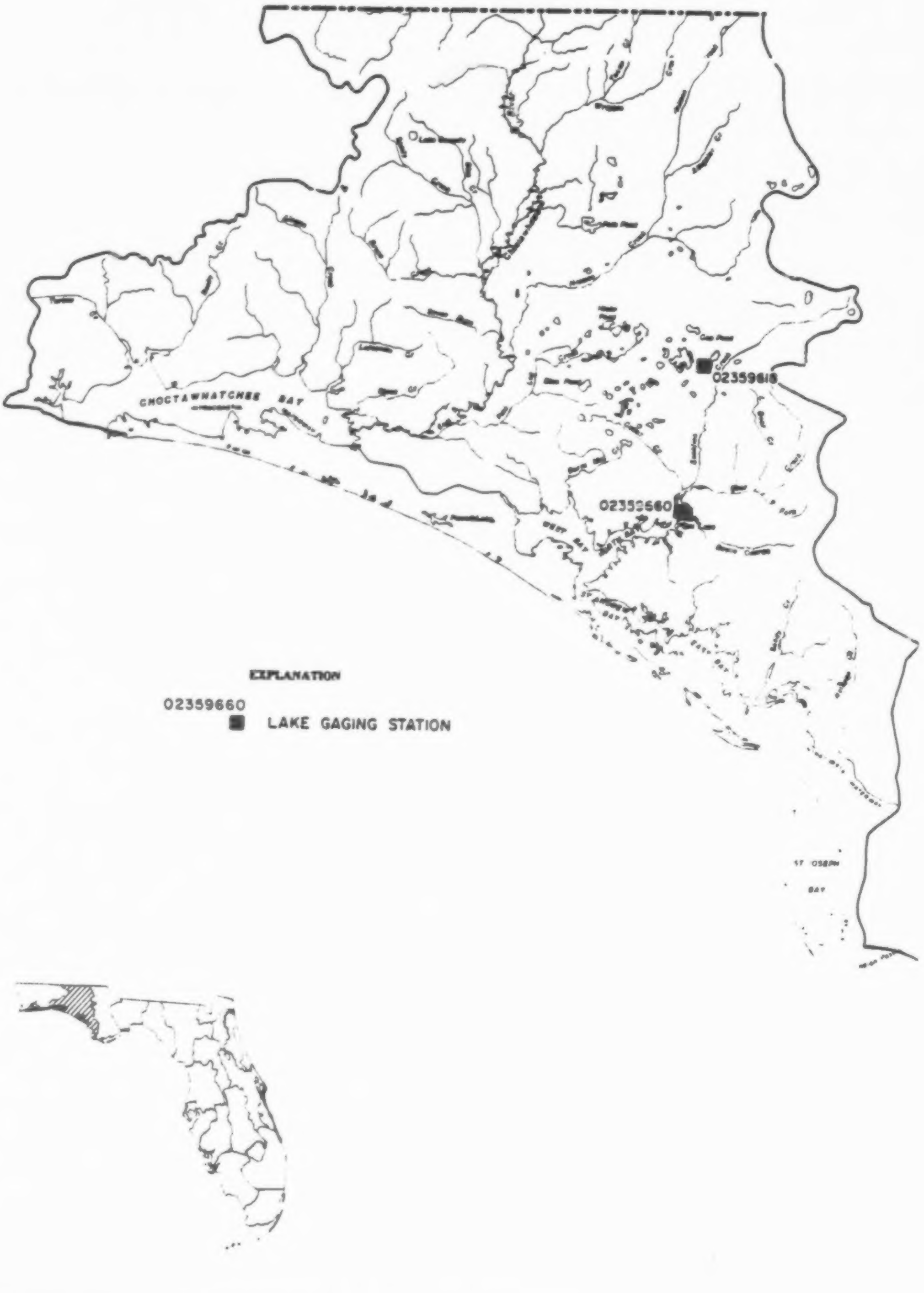

CHOCTAWHATCHEE BAY
02359618
02359660
WEST BAY
EAST BAY
ST JOSEPH BAY
EXPLANATION
02359660
■ LAKE GAGING STATION

Figure 25.–Location of lake gaging stations in the Econfina Creek basin.

02359618 PORTER LAKE NEAR GREENHEAD, FL

LOCATION.--Lat 30°29'50", long 85°33'05", in SW¼ sec.9, T.1 N., R.13 W., Washington County, Hydrologic Unit 03140101, on west shore near southwest end of lake, 6.6 mi east of Greenhead.

SURFACE AREA.--929 acres (1.45 mi^2) at elevation 70 ft NGVD.

DRAINAGE AREA.--7.64 mi^2.

PERIOD OF RECORD.--January 1961 to September 1970 (weekly), incomplete; October 1970 to current year (periodically).

GAGE.--Nonrecording gage. Datum of gage is 52.27 ft above National Geodetic Vertical Datum of 1929. Gage readings have been reduced to elevations NGVD.

REMARKS.--Lake is in a closed basin of lakes and ponds, fed by White Oak Creek, in the western part of Econfina Creek basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed elevation, 75.37 ft Mar. 26, 1984; minimum observed, 53.22 ft Dec. 8, 1969.

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT			APR		
24...	1037	72.67	24...	1536	71.95
NOV			MAY		
21...	1530	72.91	02...	1610	72.05
29...	1448	72.77	25...	0803	71.57
DEC			JUN		
26...	0824	72.32	25...	0736	73.87
JAN			JUL		
10...	1525	72.09	11...	1215	73.53
23...	1642	71.85	14...	1310	73.56
FEB			24...	1624	73.83
27...	0854	71.32	AUG		
MAR			28...	1609	73.35
07...	1220	71.33	SEP		
28...	0855	71.67	27...	1717	72.97

02359660 DEER POINT LAKE NEAR PANAMA CITY, FL

LOCATION.--Lat 30°17'57", long 85°34'50", in SE¼ sec.19, T.2 S., R.13 W., Bay County, Hydrologic Unit 03140101, on east shore of lake on private dock 0.3 mi north of public boat landing, 2.4 mi north of Deer Point Dam, and 10 mi northeast of Panama City.

SURFACE AREA.--4,698 acres, 7.34 mi^2, at elevation 4.3 ft NGVD.

DRAINAGE AREA.--435 mi^2, of which 43.9 mi^2 is noncontributing.

PERIOD OF RECORD.--November 1961 to September 1962 (fragmentary); October 1962 to October 1978 (once daily); November to December 1978 (weekly); January to June 1979 (once daily); July 1979 to January 1981 (weekly); February 1981 to current year (once daily).

REVISED RECORD.--WRD FL-78-4: 1962-77.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark). Prior to June 4, 1965 at site 0.3 mi south at datum then in use.

REMARKS.--Lake is formed by fixed concrete-capped sheet-pile dam with underpass tube and valve; crest of dam is at elevation 4.3 ft. Dam was completed on Nov. 17, 1961, and was filled to normal elevation of 4.6 ft Dec. 2, 1961. Minimum elevation affected by drawdown of lake level.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 7.67 ft July 31, 1975, from high-water mark; minimum elevation, 1.2 ft estimated, Jan. 6, 1981, minimum observed, 1.40 ft Mar. 3, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum daily elevation, 5.38 ft, June 21; minimum daily 4.87 ft, July 11.

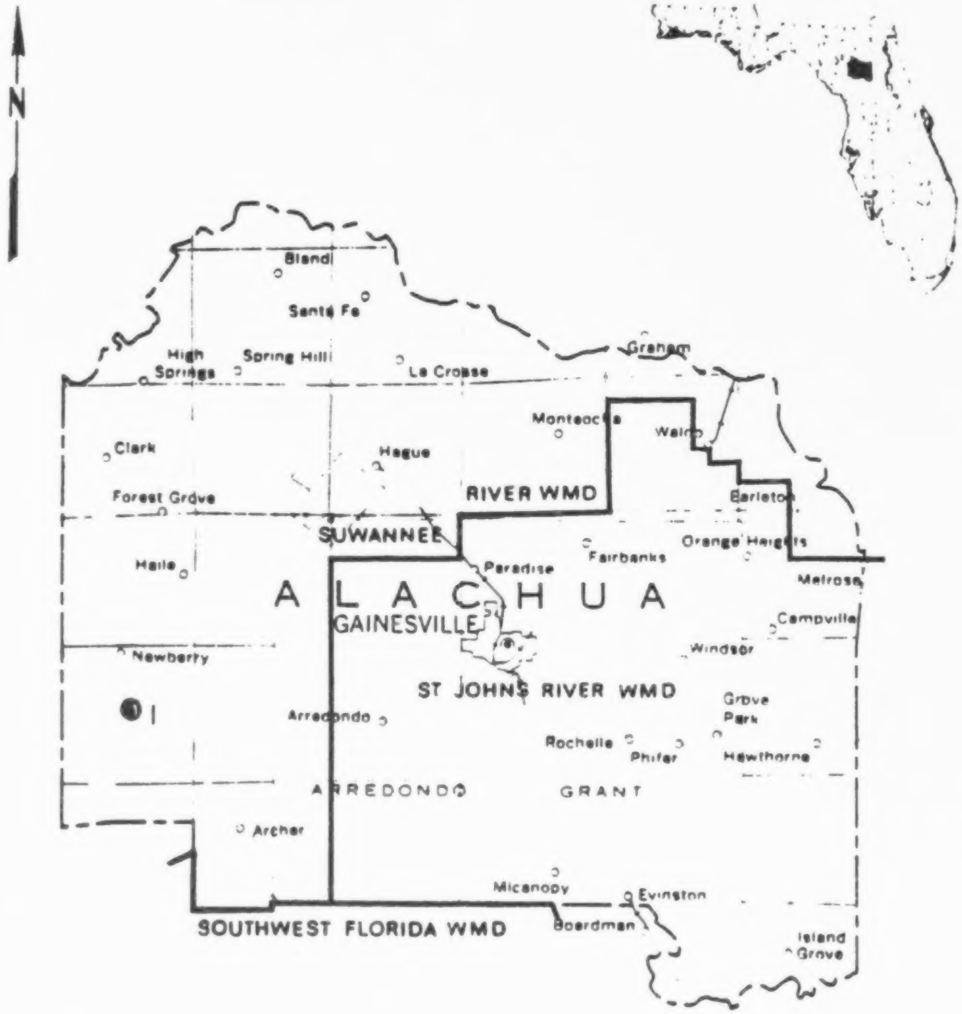
ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	5.20	5.06	4.97	5.07	4.99	5.00	5.07	5.07	5.03	5.25	5.01	5.01
10	5.10	4.99	5.01	5.03	5.02	5.01	5.02	5.02	5.35	4.92	5.06	4.94
15	5.10	5.00	5.05	5.05	5.01	5.08	5.00	5.01	5.10	5.03	5.13	5.02
20	4.97	4.91	5.03	4.98	5.07	5.04	5.01	4.95	5.17	5.08	5.11	4.98
25	4.98	4.97	5.03	5.00	5.01	5.23	5.04	5.01	5.25	5.04	4.96	4.95
EOM	4.98	4.98	5.00	4.97	5.05	5.10	5.05	4.99	5.09	5.05	5.09	4.92
MEAN	5.06	5.01	5.02	5.02	5.04	5.06	5.03	5.01	5.13	5.07	5.05	4.99
MAX	5.35	5.18	5.10	5.09	5.27	5.23	5.13	5.15	5.38	5.25	5.14	5.11
MIN	4.93	4.91	4.97	4.97	4.97	4.98	4.97	4.92	4.97	4.87	4.93	4.92

WTR YR 1989 MEAN 5.04 MAX 5.38 MIN 4.87

e Estimated

WELL DESCRIPTIONS AND GROUND-WATER DATA


N
Blandi
Santa Fe
High Springs
Spring Hill
La Crosse
Graham
Monteocha
Waldo
Clark
Hague
RIVER WMD
Forest Grove
SUWANNEE
Earleton
Orange Heights
Fairbanks
Paradise
Melrose
Haile
ALACHUA
GAINESVILLE
Campville
Newberry
Windsor
1
ST JOHNS RIVER WMD
Arredondo
Grove Park
Rochelle
Phifer
Hawthorne
ARREDONDO
GRANT
Archer
Micanopy
Evinston
SOUTHWEST FLORIDA WMD
Boardman
Island Grove

EXPLANATION

MAP NUMBER	SITE NUMBER
1	293620082362001

0 5 10 MILES

Figure 26.--Location of wells in Alachua County.

WELL NUMBER.--293620082362001. USGS Observation Well near Newberry, FL.

LOCATION.--Lat 29°36'20", long 82°36'20", in NW¼SW¼NW¼ sec.22, T.10 S., R.17 E., Hydrologic Unit 03110101, 3.0 mi south of Newberry and 6.5 mi north of Archer.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, test, artesian well, diameter 8 in., depth 252 ft, cased to 136 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of recorder shelf, 4.00 ft above land-surface datum.

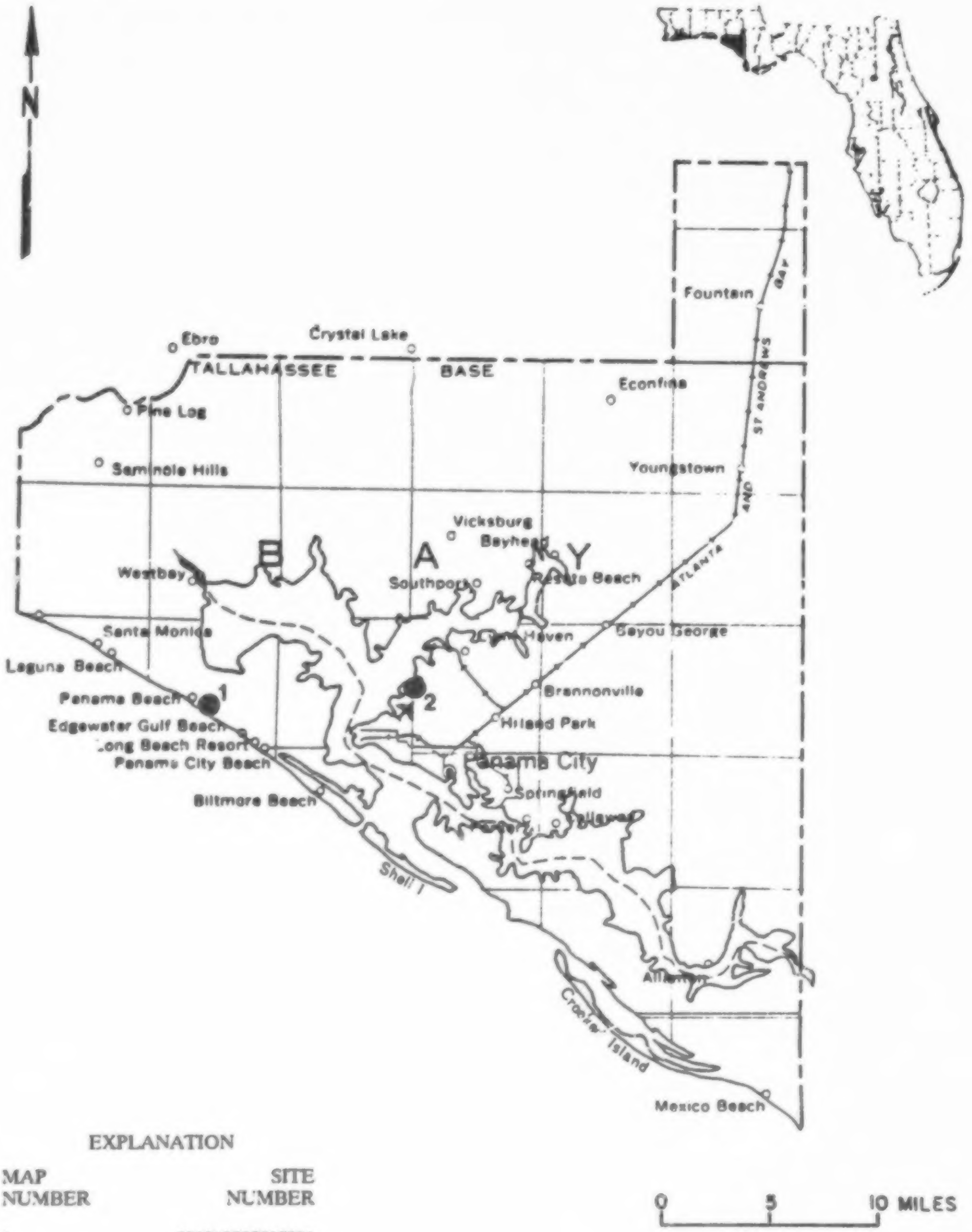
DATUM.--Land-surface datum is 72.27 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--July 1958 to September 1984 (continuous water level recorder); October 1985 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 54.63 ft NGVD, Oct. 7, 1965; lowest, 38.00 ft NGVD, Jan. 15, 1982.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT			MAY		
25...	1400	47.82	16...	1115	43.53
NOV			16...	1350	43.50
28...	1450	47.53	JUN		
DEC			28...	1315	42.46
29...	1030	46.87	JUL		
JAN			20...	1440	42.04
23...	1310	46.30	AUG		
FEB			18...	0930	41.70
20...	0945	45.62	SEP		
MAR			20...	1150	41.32
22...	1630	44.87			
APR					
20...	1450	44.18			


N
Ebro
Crystal Lake
TALLAHASSEE BASE
Fountain
BAY
ST ANDREWS
AND
ATLANTA
Econfina
Pine Log
Seminole Hills
Youngstown
Vicksburg
Bayhead
B A Y
Westbay
Southport
Resota Beach
Santa Monica
Lynn Haven
Bayou George
Laguna Beach
Brannonville
Panama Beach
1
2
Edgewater Gulf Beach
Hiland Park
Long Beach Resort
Panama City Beach
Panama City
Springfield
Biltmore Beach
Callaway
Parker
Shell I
Allanton
Crooked Island
Mexico Beach
0 5 10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	301210085505901
2	301250085412801

Figure 27.--Location of wells in Bay County.

WELL NUMBER.--301210085505901. West Panama City Beach Well at West Panama City Beach, FL.

LOCATION.--Lat 30°12'10", long 85°50'59", in SW¼NE¼NE¼ sec.28, T.3 S., R.16 W., Hydrologic Unit 03140101, about 100 ft west of State Highway 30J and 0.2 mi north of U.S. Highway 98 at Panama City Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 6 in., depth 590 ft, cased to 306 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of extended casing, 5.34 ft above land-surface datum.

DATUM.--Land-surface datum is 28.52 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--February 1962 to July 1965; January 1966 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.99 ft NGVD, May 14, 1973; lowest measured, -14.67 ft NGVD, Sept. 1, 1970.

ELEVATION, IN FEET, NGVD, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV			JUL		
09...	1700	0.47	12..	1650	0.44
JAN			SEP		
11...	0650	0.87	20..	1240	0.18
MAR					
07...	1430	1.18			

WELL NUMBER.--301250085412801. Panama City Airport Authority Well, near Panama City, FL.

LOCATION.--Lat 30°12'50", long 85°41'28", in NW¼SW¼NW¼ sec.19, T.3 S., R.14 W., Hydrologic Unit 03140101, 200 ft north of Frankford Ave., 1.4 mi north of State Highway 390 and 3.6 mi northwest of Panama City.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 6 in, depth 345 ft, cased to 326 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 1.50 ft above land-surface datum. Prior to September 1965 water-level recorder at same site and datum.

DATUM.--Land-surface datum is 4.03 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--February 1962 to September 1965; March 1966 to December 1968 (monthly); January 1969 to current year (bimonthly, discontinued). Records of water levels prior to January 1974 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.84 ft NGVD, Mar. 6, 1969; lowest measured, -9.68 ft NGVD, July 23, 1986.

ELEVATION, IN FEET, NGVD, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV			MAY		
10...	0710	-1.74	04...	0705	-3.78
JAN			JUL		
11...	0730	-0.49	13...	0755	-7.07
MAR			SEP		
08...	0720	-1.93	20...	1210	-7.12

EXPLANATION

MAP NUMBER	SITE NUMBER
1	302636085024701

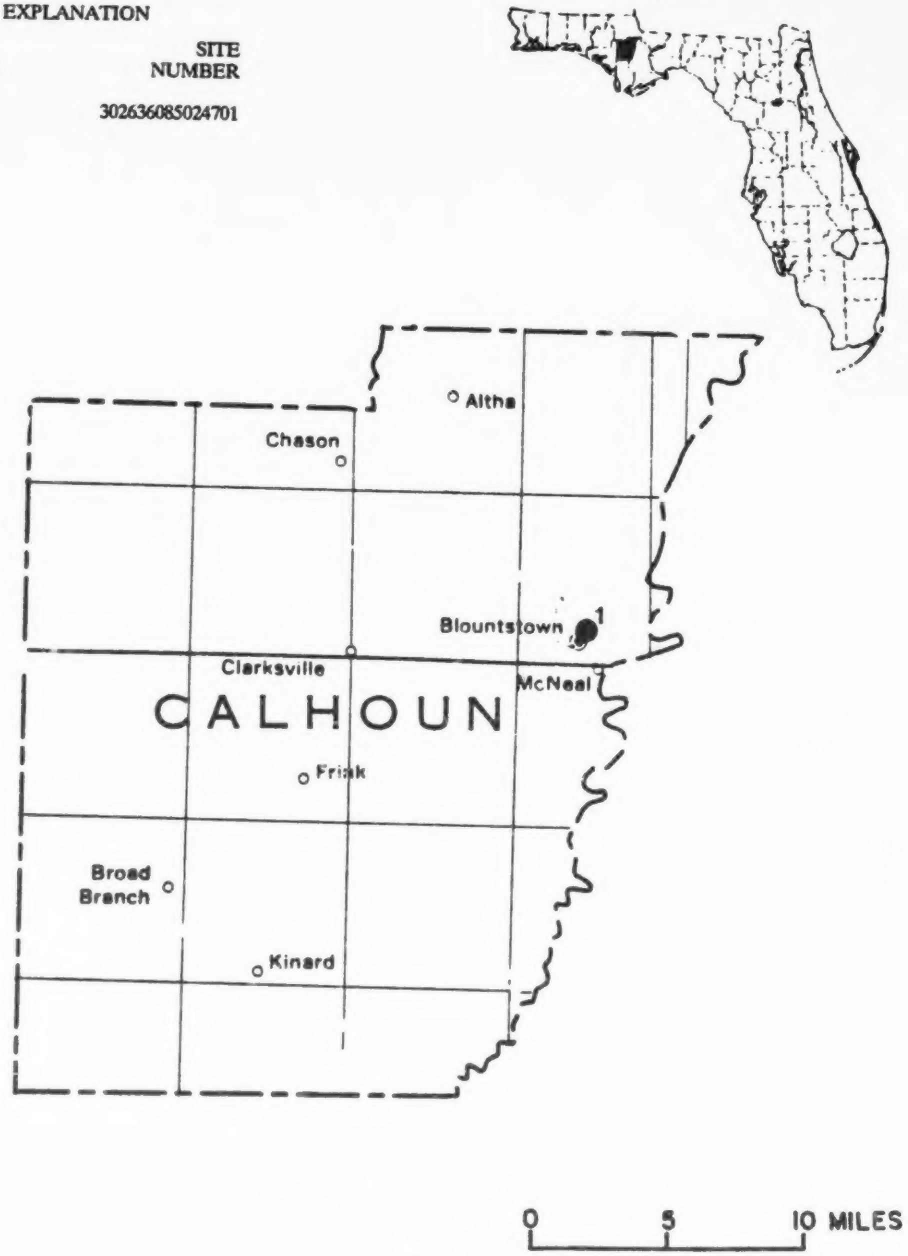

Altha
Chason
Blountstown
1
Clarksville
McNeal
CALHOUN
Frink
Broad Branch
Kinard
0
5
10 MILES

Figure 28.--Location of wells in Calhoun County.

WELL NUMBER.--302636085024701. City of Blountstown Well at Blountstown, FL.

LOCATION.--Lat 30°26'36", long 85°02'47", in SE¼NW¼NW¼ sec.33, T.1 N., R.8 W., Hydrologic Unit 03130011, at City Hall Building in Blountstown.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, public-supply, artesian well, diameter 6 in., depth 212 ft, cased to 36 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of hole in cap at land-surface datum.

DATUM.--Land-surface datum is 58.94 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--June to November 1961 (monthly); January 1962 to July 1964 (bimonthly); January 1965 to June 1977 (semiannually); November 1977 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 58.54 ft NGVD, Jan. 14, 1966; lowest measured, 44.86 ft NGVD, May 14, 1965.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV			MAY		
08...	0940	50.01	05...	0935	48.61
JAN			JUL		
17...	1420	48.94	21...	1730	49.75
MAR			SEP		
24...	1330	49.63	20...	0845	49.24

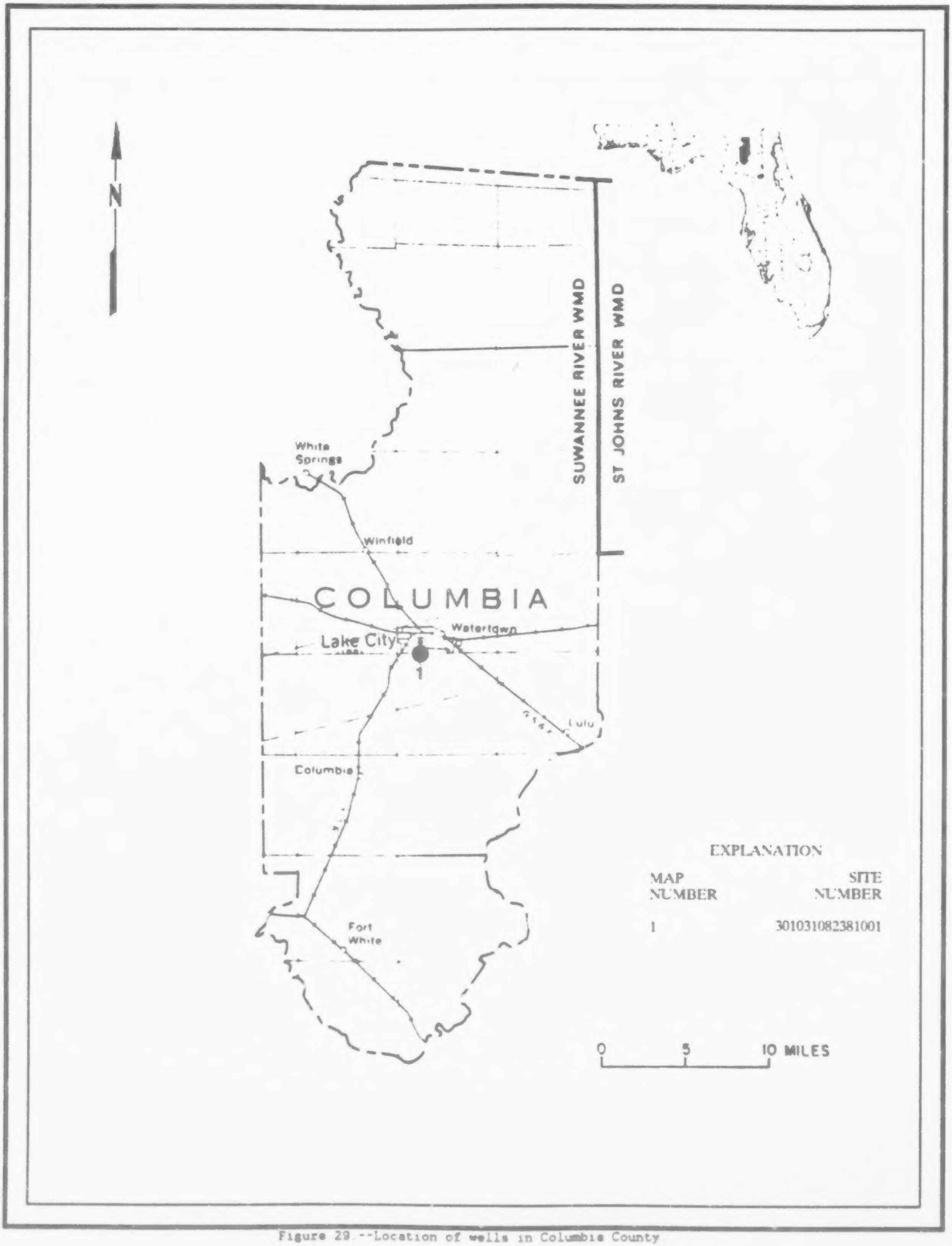

N
SUWANNEE RIVER WMD
ST JOHNS RIVER WMD
White Springs
Winfield
COLUMBIA
Lake City
Watertown
1
Lulu
Columbia
Fort White
EXPLANATION
MAP NUMBER
SITE NUMBER
1
301031082381001
0
5
10 MILES

Figure 29.--Location of wells in Columbia County

COLUMBIA COUNTY

WELL NUMBER.--301031082381001. Local Number Columbia 9. City of Lake City Well at Lake City, FL.

LOCATION.--Lat 30°10'31", long 82°38'10", in SE¼NE¼NW¼ sec.5, T.4 S., R.17 E., Hydrologic Unit 03110206, 0.1 mi east of U.S. Highway 441 and 1.0 mi south of intersection of U.S. Highway 441 and U.S. Highway 90 at Lake City.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 12 in., depth 836 ft, cased to 680 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top edge shelter floor, 1.05 ft above land-surface datum.

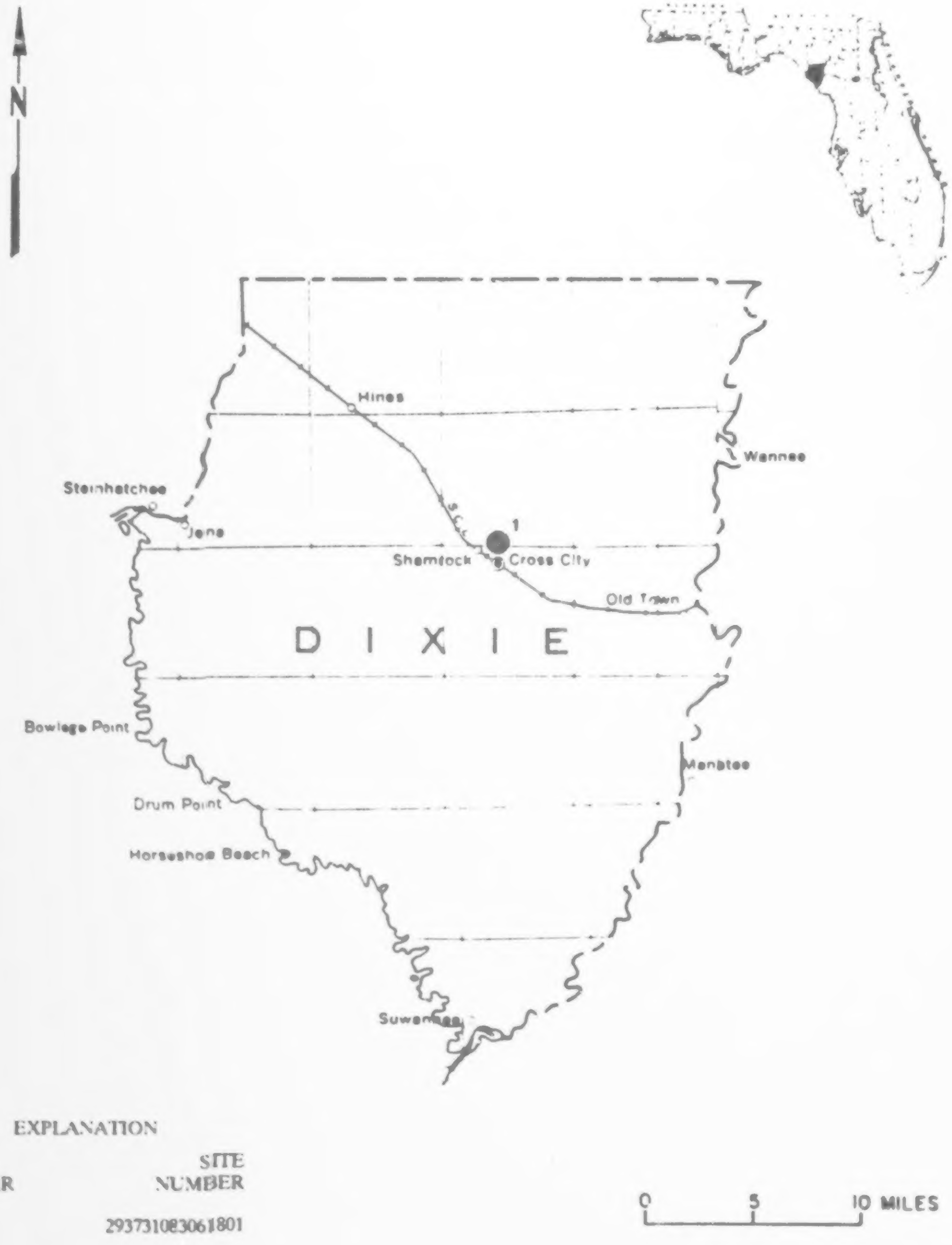
DATUM.--Land-surface datum is 143.64 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--July 1942 (annually); June 1948 to September 1987 (continuous water level recorder); October 1987 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 64.11 ft NGVD, June 4, 1948; lowest, 45.79 ft NGVD, Sept. 21, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT 29 . .	0920	49.05	APR 26 ..	1140	47.39
NOV 28...	1040	48.90	MAY 25 ..	1145	46.99
DEC 27 ...	1110	48.56	JUN 26 .	1020	46.62
JAN 25. . .	0925	48.33	JUL 19...	0935	46.24
FEB 27...	0815	48.19	AUG 21 .	1135	45.97
MAR 24 ..	1010	47.74	SEP 21. .	1040	45.79


N
Hines
Wannee
Steinhatchee
Jena
S.C.L.
1
Shamrock
Cross City
Old Town
DIXIE
Bowlegs Point
Manatee
Drum Point
Horseshoe Beach
Suwannee
0
5
10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	293731083061801

Figure 30.--Location of wells in Dixie County.

WELL NUMBER.--293731083061801. Local Number Dixie 15. City of Cross City Well near Cross City, FL.

LOCATION.--Lat 29°37'31", long 83°06'18", in SW¼NE¼SE¼ sec.10, T.10 S., R.12 E., Hydrologic Unit 03110102, 0.1 mi north of U.S. Highway 19 and 1.0 mi east of Cross City.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 8 in., depth 215 ft, cased to 105 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top edge shelter floor, 3.75 ft above land-surface datum.

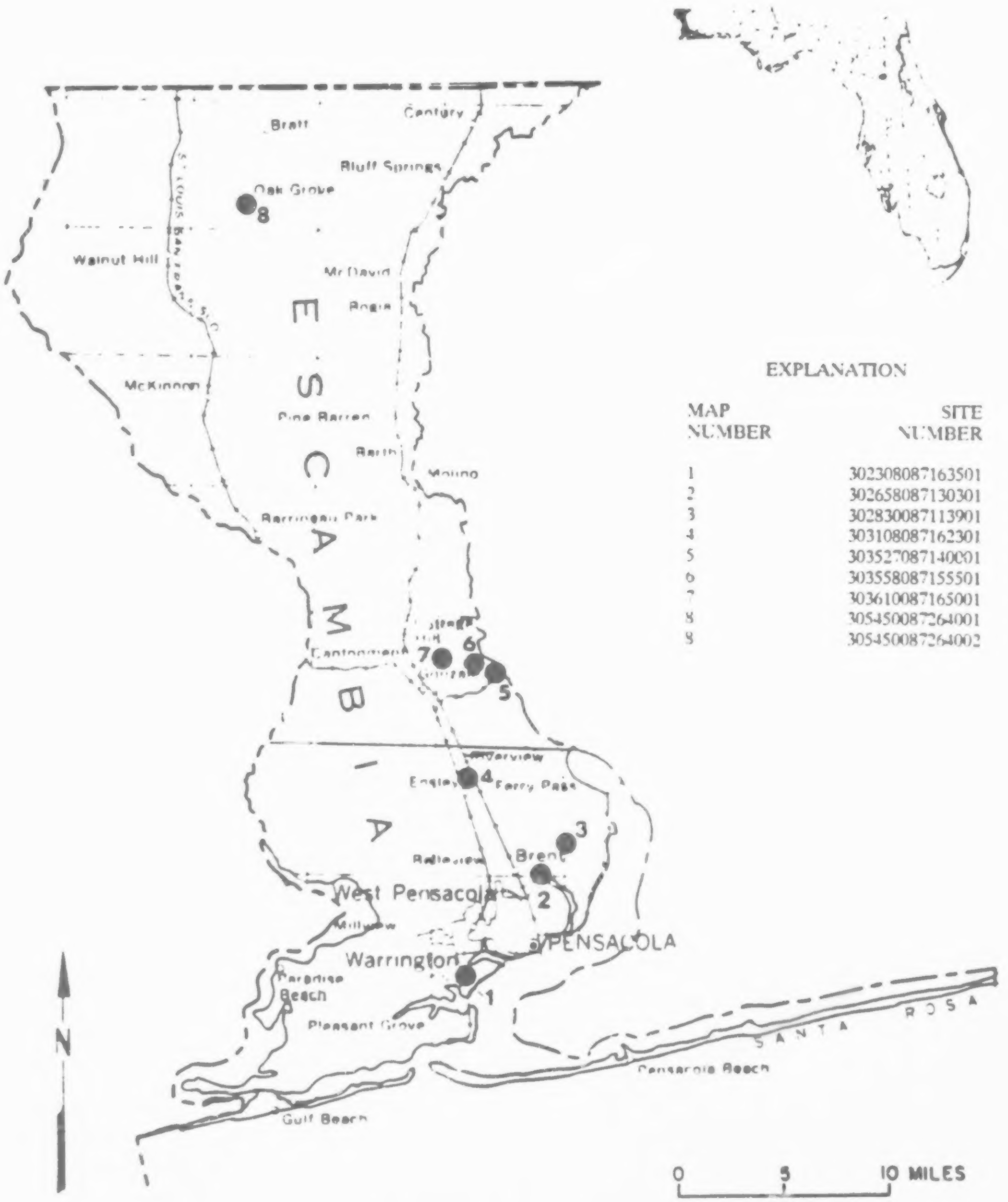
DATUM.--Land-surface datum is 40.17 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--June 1957 to April 1963; April 1963 to July 1964 (bimonthly); January 1964 to July 1974 (semiannually), January 1975 to December 1985 (bimonthly); January 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 39.33 ft NGVD, Sept. 19, 1959; lowest, 30.00 ft NGVD, Aug. 18, 19, 1977.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT 17	1000	36.22	APR 11	0915	33.51
NOV 16	0930	35.15	MAY 09	1215	32.87
DEC 23	1025	34.82	JUN 13	0835	32.97
JAN 18	0930	34.40	JUL 10	0915	34.14
FEB 14	0930	34.13	AUG 08	1130	34.66
MAR 21	0945	33.85	SEP 11	0830	36.06


Bratt
Century
Bluff Springs
Oak Grove
8
Walnut Hill
McDavid
Bogia
McKinnon
Pine Barren
Barth
Molino
Barrineau Park
E S C A M B I A
Cottage Hill
Cantonment
7
6
Gonzalez
5
Riverview
Ensley
4
Ferry Pass
3
Bellview
Brent
2
West Pensacola
Millview
PENSACOLA
Warrington
Paradise Beach
1
Pleasant Grove
Gulf Beach
Pensacola Beach
SANTA ROSA
N
0
5
10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	302308087163501
2	302658087130301
3	302830087113901
4	303108087162301
5	303527087140001
6	303558087155501
7	303610087165001
8	305450087264001
8	305450087264002

Figure 31.--Location of wells in Escambia County

WELL NUMBER.--302308087163501. Local number 39. Irving B. Hanna Well at Warrington, FL.

LOCATION.--Lat 30°23'08", long 87°16'35", in land grant 51, T.2 S., R.30 W., Hydrologic Unit 03140105, 45 ft north of East Winthrop Avenue and 140 ft east of First Street at Warrington.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System, Geologic Unit 120 NFSG.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 3 in., depth 244 ft, cased to 92 ft, screened 92 to 99 ft, 156 to 170 ft, and 232 to 244 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of coupling, 1.0 ft above land-surface datum.

DATUM.--Land-surface datum is 9.91 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--June 1940 to October 1962 (weekly); October 1962 to February 1987 (monthly); April 1987 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.05 ft NGVD, Aug. 13, 1940; lowest measured, -8.35 ft NGVD, Aug. 5, 1968.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT			APR		
2...	1015	2.40	29 .	0855	-0.67
DEC			JUN		
26..	0930	2.53	26 .	1000	1.31
FEB			AUG		
27. .	0840	1.97	26 .	1105	-0.52

WELL NUMBER.--302658087130301. Local number 026-713-5. USGS Observation Well at Pensacola, FL.

LOCATION.--Lat 30°26'58", long 87°13'03", in land grant 4, T.2 S., R.30 W., Hydrologic Unit 03140105, 33 ft west of State Highway 291 (Alcaniz Street) and 0.3 mi south of State Highway 289 (Fairfield Drive) at Pensacola.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System, Geologic Unit 120 NFSG.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 149 ft, cased to 144 ft, screened from 144 to 149 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of plug, 2.71 ft above land-surface datum.

DATUM.--Land-surface datum is 89.41 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--July 1959 to July 1962; October 1962 to January 1987 (weekly); March 1987 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.69 ft NGVD, Oct. 29, 1979; lowest measured, 19.33 ft NGVD, Feb. 19, 1973.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT 24...	1040	28.74	APR 29...	0925	27.31
DEC 26...	1005	28.87	JUN 26...	0930	28.31
FEB 27...	0915	28.23	AUG 26...	1030	28.08

ESCAMBIA COUNTY

WELL NUMBER.--302830087113901. Pensacola Airport Well at Pensacola, FL.

LOCATION.--Lat 30°28'30", long 87°11'39", in NW¼NE¼SW¼ sec.*, T.1 S., R.29 W., Hydrologic Unit 03140105, 160 ft southwest of Pensacola Airport terminal building at Pensacola.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System, 120 NFSG.

WELL CHARACTERISTICS.--Drilled, unused, irrigation well, diameter 10 in., depth 210 ft, cased to 163 ft, screened from 163 to 210 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of recorder shelf, 1.0 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 110 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--*Land is not sectionized in this area.

PERIOD OF RECORD.--July 1976 to September 1984; October 1984 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 33.01 ft NGVD, May 25, 1980; lowest, 15.70 ft NGVD, Jan. 17, 1982.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
DEC			APR		
06...	1625	29.58	13...	0750	24.26
FEB			AUG		
16...	0815	26.50	09...	1625	25.84

WELL NUMBER.--303108087162301. Local number 46. USGS Observation Well at Ensley, FL.

LOCATION.--Lat 30°31'08", long 87°16'23", in SE¼SE¼SW¼ sec.11, T.1 S., R.30 W., Hydrologic Unit 03140107, 24 ft west of Pensacola Boulevard, (U.S. Highway 29), 175 ft north of Detroit Boulevard and 0.4 mi west of State Highway 95A, (Old Palafox Highway), in Ensley.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System, Geologic Unit 120 NFSG.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 239 ft, cased to 229 ft, screened from 229 to 239 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of flange cover, 1.10 ft above land-surface datum.

DATUM.--Land-surface datum is 131.52 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--December 1939 to June 1940 (weekly); June 1940 to May 1955; January 1955 to January 1987 (weekly); February 1987 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 75.07 ft NGVD, Sept. 23, 1948; lowest measured, 48.27 ft NGVD, Nov. 27, 1972.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT			APR		
24...	1055	54.98	29...	0940	54.20
NOV			MAY		
27...	1020	55.52	25...	1330	54.02
DEC			JUN		
06...	1715	57.33	02...	1315	52.04
26...	1015	57.27	26...	0850	54.11
JAN			JUL		
24...	1635	57.02	26...	1625	55.41
26...	1015	56.89	27...	0745	55.43
FEB			AUG		
27...	0930	56.49	26...	1015	54.17
MAR			SEP		
27...	1030	55.12	21...	0810	54.90
30...	1600	55.62	24...	0830	54.67

ESCAMBIA COUNTY

WELL NUMBER.--303527087140001. Local number 83. Monsanto Company Well near Cantonment, FL.

LOCATION.--Lat 30°35'27", long 87°14'00", in land grant 30, T.1 N., R.30 W., Hydrologic Unit 03140305, on south bank of Escambia River at Monsanto Plant, 3.5 mi northeast of U.S. Highway 29, and 4.9 mi southeast of Cantonment.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System, Geologic Unit 120 NFSG.

WELL CHARACTERISTICS.--Drilled, unused, artesian test well, diameter 4 in., depth 293 ft, cased to 230 ft, screened from 230 to 240 ft and 282 to 292 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 2.90 ft above land-surface datum.

DATUM.--Land-surface datum is 37.5 ft above National Geodetic Vertical Datum of 1929 (levels by Monsanto Company).

PERIOD OF RECORD.--July 1954 to March 1965; March 1965 to September 1986 (bimonthly); November 1986 to current year (semiannually, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.60 ft NGVD, Mar. 29, 1983; lowest measured, -11.45 ft NGVD, Jan. 17, 1973.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
DEC			MAY		
06. . .	1425	3.57	24 .	1150	2.74

ESCAMBIA COUNTY

WELL NUMBER.--303558087155501. Local Number 73. Monsanto Plant Well near Cantonment, FL.

LOCATION.--Lat 30°35'58", long 87°15'55", in land grant 30, T.1 N., R.30 W., Hydrologic Unit 03140305, on south bank of Escambia River at Monsanto Plant, 3.1 mi northeast of U.S. Highway 29, and 4.4 mi southeast of Cantonment.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System. Geologic Unit 120 NFSG.

WELL CHARACTERISTICS.--Drilled, test, artesian well, diameter 4 to 2.5 in, depth 306 ft, cased to 198 ft, screened from 198 to 208 ft, 294 to 304 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 3.00 ft above land-surface datum.

DATUM.--Land-surface datum is 51.89 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--November 1951 to September 1984; October 1984 to current year (bimonthly, discontinued). Records of water levels prior to January 1974 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.49 ft NGVD, Nov. 10, 1951; lowest, -13.51 ft NGVD, July 12, 1974.

ELEVATION, IN FEET, NGVD, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
DEC 06...	1445	4.82	MAY 25...	1135	3.17
JAN 24...	1100	4.16	JUL 26...	1130	4.21
MAR 16...	1430	3.66	SEP 19...	1615	4.18

WELL NUMBER.--303610087165001. Local Number 74. Monsanto Company well near Cantonment, FL.

LOCATION.--Lat 30°36'10", long 87°16'50", in land grant 30, T.1 N., R.30 W., Hydrologic Unit 03140305, 1.3 mi north of paved road to Monsanto Plant, 1.6 mi east of U.S. Highway 29, and 3.4 mi southeast of Cantonment.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System. Geologic Unit 120 NFSG.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 to 2½ in., depth 352 ft, cased to 260 ft, screened from 260 to 270 ft and 340 to 350 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 3.00 ft above land-surface datum.

DATUM.--Land-surface datum is 97.39 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--November 1951 to September 1984; October 1984 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.42 ft NGVD, Nov. 10, 1951; lowest, -2.61 ft NGVD, Jan. 22, 1969.

ELEVATION, IN FEET, NGVD, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
DEC 06...	1630	9.14	SEP 19	1555	9.54
MAY 24...	1545	8.52			

WELL NUMBER.--305450087264001. Local Number 054-726-1. U.S. Geological Survey Observation Well at Oak Grove, FL.

LOCATION.--Lat 30°54'50", long 87°26'40", in NE¼NW¼NE¼ sec.33, T.5 N., R.32 W., Hydrologic Unit 03140305, 36 ft west of State Highway 99, 700 ft south of intersection of State Highways 99 and 164 at Oak Grove.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System, Geologic Unit 120 NFSG.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 206 ft, cased to 201 ft, screened from 201 to 206 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of coupling, 3.25 ft above land-surface datum. Prior to October 25, 1962 water-level recorder at same site and datum.

DATUM.--Land-surface datum is 259.27 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--May 1959 to October 1962; November 1962 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 176.54 ft NGVD, July 15, 1980; lowest measured, 166.00 ft NGVD, Mar. 5, 1969.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT 03...	1605	170.36	APR 11...	1340	169.69
DEC 06...	0805	170.55	JUN 07...	1100	169.21
FEB 14...	1030	170.16	AUG 08...	1155	170.45

WELL NUMBER.--305450087264002. Local Number 054-726-2. U.S. Geological Survey Observation Well at Oak Grove, FL.

LOCATION.--Lat 30°54'50", long 87°26'40", in NE¼NW¼NE¼ sec.33, T.5 N., R.32 W., Hydrologic Unit 03140305, 36 ft west of State Highway 99, 700 ft south of intersection of State Highways 99 and 164 at Oak Grove.

AQUIFER.--Nonartesian sand aquifer of the Tertiary System, Geologic Unit 120 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, diameter 4 in., depth 107 ft, cased to 102 ft, screened from 102 to 107 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of nipple, 3.25 ft above land-surface datum.

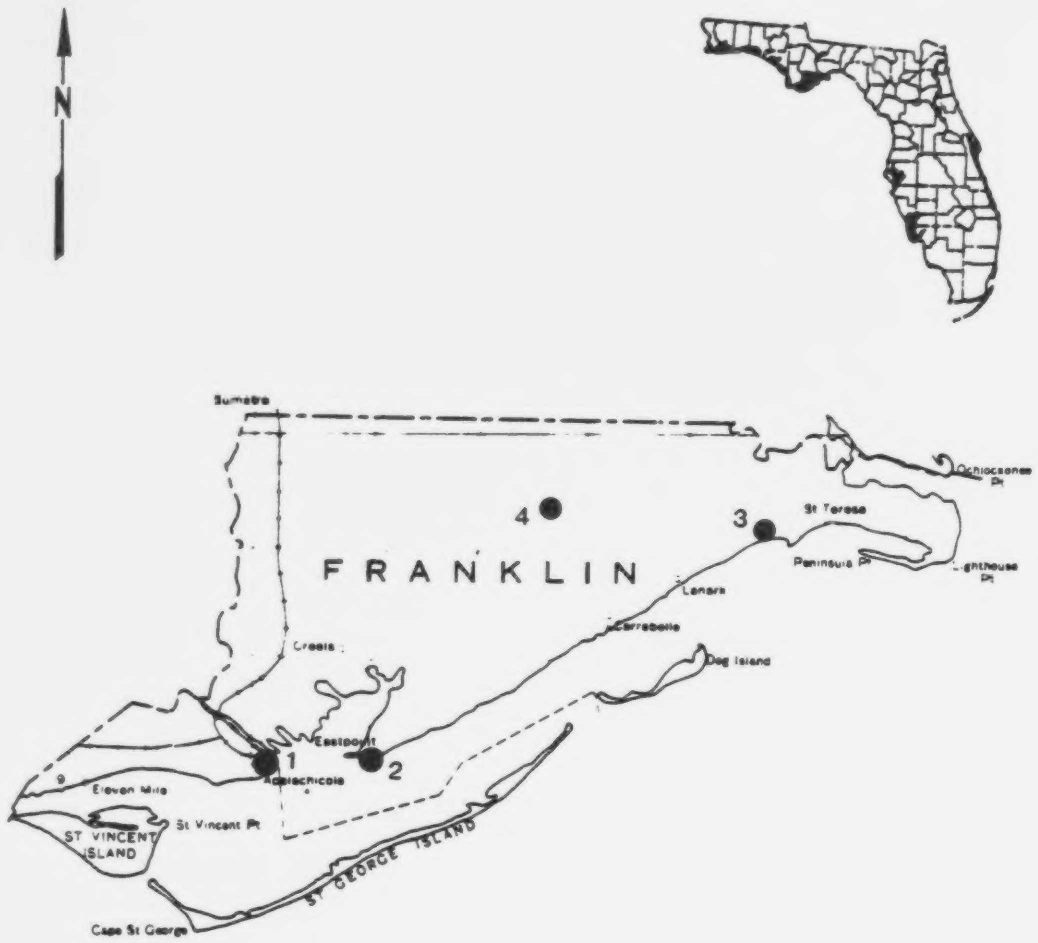
DATUM.--Land-surface datum is 259.21 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--May 1959 to November 1962 (monthly); January 1963 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 194.71 ft NGVD, July 15, 1980; lowest measured, 179.64 ft NGVD, Mar. 5, 1969.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT 03...	1610	184.56	APR 11...	1345	184.28
DEC 06...	0810	185.08	JUN 07...	1105	183.55
FEB 14...	1040	184.86	AUG 08...	1200	184.67


N
Sumatra
Ochlockonee Pt
4
3
St Teresa
FRANKLIN
Peninsula Pt
Lighthouse Pt
Lanark
Carrabelle
Creels
Dog Island
Eastpoint
1
2
Apalachicola
9
Eleven Mile
St Vincent Pt
ST VINCENT ISLAND
ST GEORGE ISLAND
Cape St George
0 5 10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	294327084585501
2	294337084532401
3	295507084311901
4	295732084430701

Figure 32.--Location of wells in Franklin County.

FRANKLIN COUNTY

WELL NUMBER.--294327084585501. Local number 31. City of Apalachicola Well at Apalachicola, FL.

LOCATION.--Lat 29°43'27", long 84°58'55", in NW¼NE¼SW¼ sec.6, T.9 S., R.7 W., Hydrologic Unit 03130011, south of west approach to Gorrie Bridge at Apalachicola.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 8 in., depth and casing length unknown.

INSTRUMENTATION.--Tape measured. Measuring point: Top of 8 in. steel casing, 0.36 ft below land-surface datum. Prior to July 1978, top of vitrified clay pipe, 1.00 ft above land-surface datum.

DATUM.--Land-surface datum is 5.80 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--

ELEVATIONS: September 1949 to May 1986 (bimonthly). (Well temporarily discontinued in May 1986 due to bridge construction.) September 1988 to current year (bimonthly, discontinued).

WATER QUALITY: July 1961 (annually); January 1962 to May 1967 (semi-annually); January 1968 to May 1968 (bimonthly); September 1988 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.75 ft NGVD, Mar. 20 and May 1, 1950; lowest measured, 7.02 ft NGVD, July 5, 1968, February 28, 1985.

ELEVATION, CONDUCTANCE, TEMPERATURE AND CHLORIDE DATA OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 10...	1645	8.53	3390	23.5	870	MAY 04...	1215	7.97	3830	2[illegible].5	900
JAN 11...	1415	7.87	3100	18.5	880	JUL 06...	1155	7.35	4000	24.5	840
MAR 08...	1500	8.19	3150	17.0	840	SEP 08...	1315	7.56	3140	25.5	880

WELL NUMBER.--294337084532401. McCullogh Properties, Inc. well at Eastpoint, FL.

LOCATION.--Lat 29°43'37", long 84°53'24", in NE¼NE¼NE¼ sec.1, T.9 S., R.7 W. Hydrologic Unit 03130013, on south side of State Highway 65 near approach to St. George Island Bridge, .75 mi southwest of Eastpoint.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 8 in, depth 221 ft, cased to 163 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of reducer, 1.70 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 6 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--May 1981 to current year (semiannually, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.07 ft NGVD, May 21, 1986; lowest measured, 7.91 ft NGVD, July 18, 1986.

ELEVATION, CONDUCTANCE, TEMPERATURE AND CHLORIDE DATA OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG CC)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 10...	1730	8.81	447	23.0	9.8	JUL 06...	1315	8.30	464	23.5	10

WELL NUMBER.--295507084311901. St. James. St. Joe Paper Company Well near Lanark, FL.

LOCATION.--Lat 29°55'07", long 84°31'19", in NW¼SW¼NE¼ sec.34, T.6 S., R.3 W., Hydrologic Unit 03130013, 500 ft northwest of intersection of U.S. Highway 98 and State Highway 377, 10 miles northeast of Carrabelle.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 10 in, depth 174 ft, cased to 80 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of shelter floor, 1.0 ft above land-surface datum. Prior to September 1980 water-level recorder at same site and datum.

DATUM.--Land-surface datum is 32.09 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1977 elevation of land-surface datum was considered to be 30 ft, from topographic map.

PERIOD OF RECORD.--September 1976 to September 1980; October 1980 to current year (bimonthly, discontinued). The figures of water levels as elevation in feet, National Geodetic Vertical Datum prior to Oct. 1977 are in error. Revised records are in files of the U.S. Geological Survey. See DATUM.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.88 ft NGVD, Apr. 25, 1979; lowest, 8.37 ft NGVD, Dec. 10, 1977.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV			MAY		
14...	1420	9.48	04...	1350	8.97
JAN			JUL		
11...	1520	9.00	06...	1510	9.61
MAR			SEP		
08...	1550	8.77	20...	1630	9.52

WELL NUMBER.--295732084430701. Buckeye Cellulose Corporation well near Carrabelle, FL.

LOCATION.--Lat 29°57'32", long 84°43'07", in NW¼NW¼NW¼ sec.14, T.6 S., R.5 W., Hydrologic Unit 03130013, 7.5 mi north of Carrabelle and 6.3 mi west of State Highway 67 at New River Crossing.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 6 in., depth and length of casing unknown.

INSTRUMENTATION.--Pressure gage and tape measured. Measuring point: Top edge of pipe protruding from gate valve, 2.60 ft above land-surface datum.

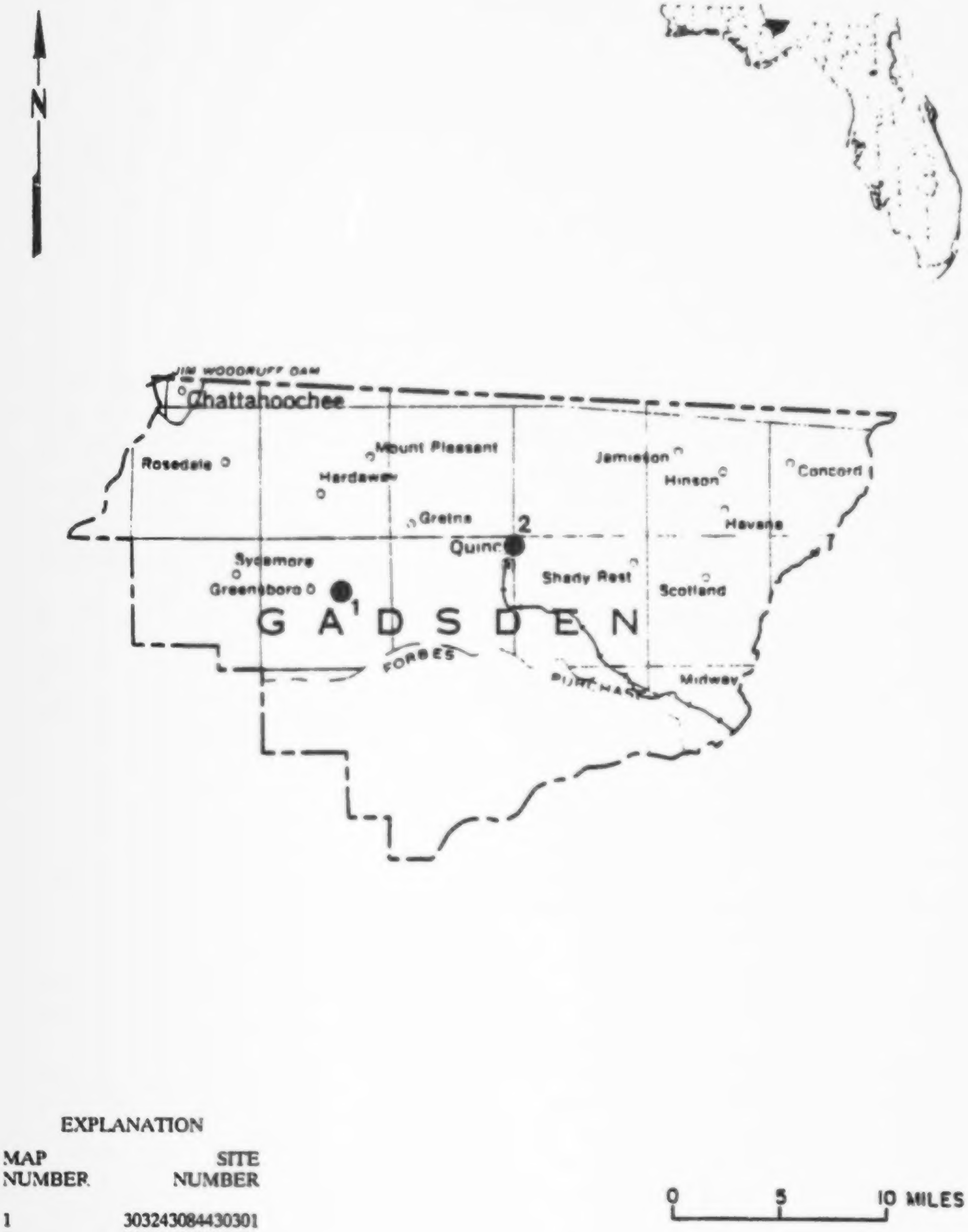
DATUM.--Land-surface datum is 10.01 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--
ELEVATIONS: January 1974 to current year (semiannually, discontinued).
WATER QUALITY: September 1972 (annually); January 1975 to current year (semiannually, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.39 ft NGVD, Jan. 7, 1974; lowest measured, 13.01 ft NGVD, Oct. 24, 1984 and May 14, 1985.

ELEVATION, CONDUCTANCE, TEMPERATURE AND CHLORIDE DATA OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV						JUL					
14...	1145	13.42	537	20.5	11	06...	1400	13.83	557	21.0	11


N
JIM WOODRUFF DAM
Chattahoochee
Rosedale
Mount Pleasant
Hardaway
Gretna
Jamieson
Hinson
Concord
Havana
2
Quincy
Sycamore
Greensboro
1
Shady Rest
Scotland
GADSDEN
FORBES
PURCHASE
Midway
0
5
10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	303243084430301
2	303550084343001

Figure 33.--Location of wells in Gadsden County.

WELL NUMBER.--303243084430301. Franklin Fletcher Well near Greensboro, Fl.

LOCATION.--Lat 30°32'43", long 84°43'03", in SW¼NE¼NE¼ sec.27, T.2 N., R.5 W., Hydrologic Unit 03120003, 0.2 mi south of State Highway 274 and 1.9 mi southeast of Greensboro.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, irrigation, artesian well, diameter 8 in., depth 803 ft, cased to 530 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of 8 in casing, 0.4 ft above land-surface datum.

DATUM.--Land-surface datum is 250.41 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--November 1974 to September 1977; October 1977 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 76.57 ft NGVD, May 23, 1976; lowest, 71.31 ft NGVD, Sept. 23, 1981.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 04...	1800	73.25	MAY 16...	0845	72.36
JAN 17...	1330	72.80	JUL 10...	1000	72.32
MAR 16...	0810	72.31	SEP 13...	0830	71.93

WELL NUMBER.--303550084345001. City of Quincy Well No. 3 at Quincy, FL.

LOCATION.--Lat 30°35'50", long 84°35'50", in SE¼NW¼SW¼ sec.6, T.2 N., R.3 W., Hydrologic Unit 0312003, at water plant, 0.8 mi north of intersection of U.S. Highway 90 and State Highway 267 at Quincy

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, public-supply, artesian well, diameter 8 in. to 6 in., depth 701 ft, cased to 430 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of 6 in tee, 2.00 ft above land-surface datum. Prior to Oct. 1980 water-level recorder at same site and datum.

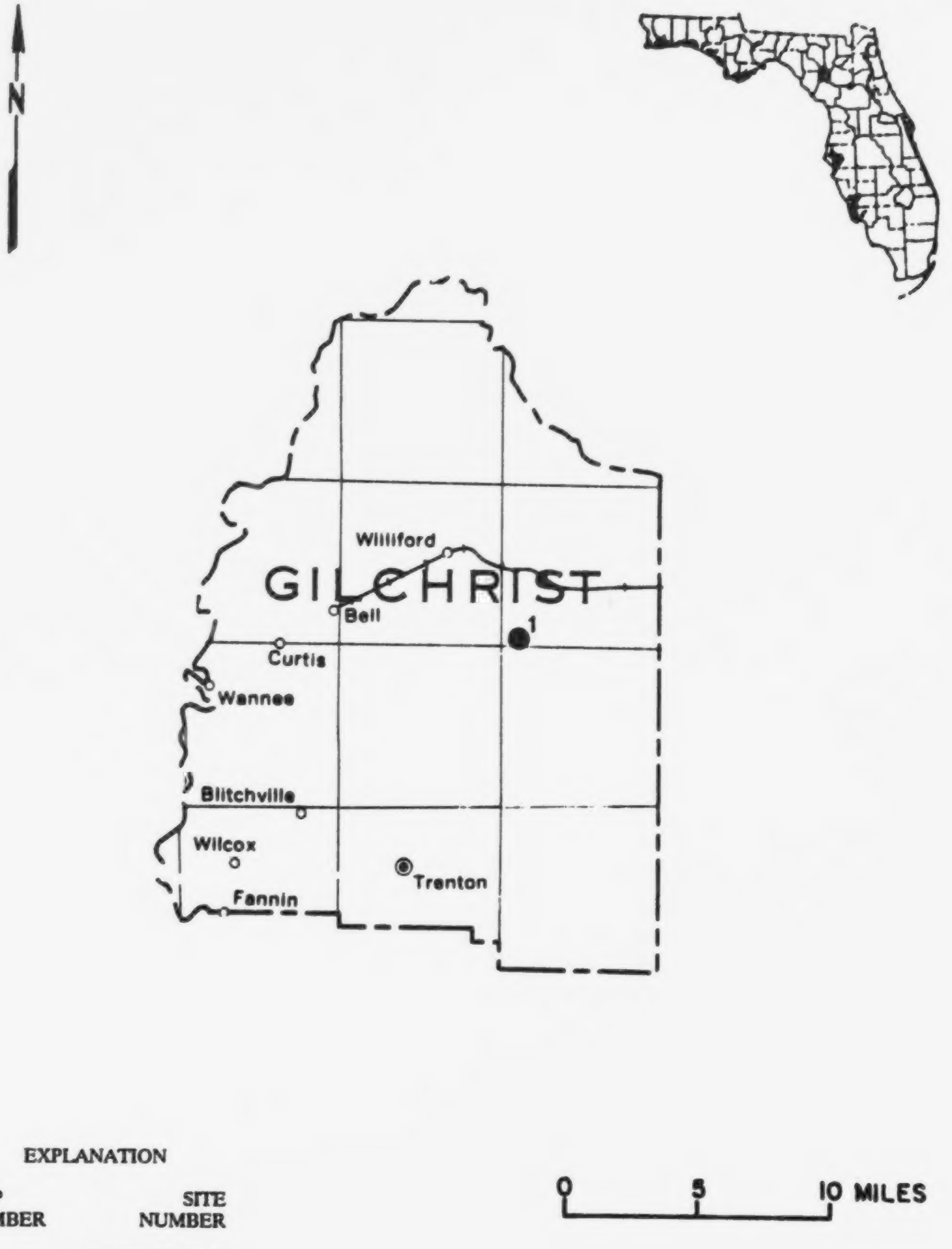
DATUM.--Land-surface datum is 151.46 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--February 1961 to July 1964 (bimonthly); January 1965 to April 1974 (semiannually); January 1975 to September 1977 (bimonthly), October 1977 to September 1980; October 1980 to current year (bimonthly, discontinued). Records of water levels prior to January 1974 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 68.11 ft NGVD, May 7, 1968; lowest, 45.92 ft NGVD, July 5, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT 20...	1115	59.14	MAR 13...	1210	59.05
NOV 07...	1415	59.27	JUL 05...	1620	45.92
JAN 10...	0815	59.16	SEP 06...	1430	57.03


N
GILCHRIST
Williford
Bell
1
Curtis
Wannee
Blitchville
Wilcox
Fannin
Trenton
0
5
10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	294330082445001

Figure 34.--Location of wells in Gilchrist County.

GILCHRIST COUNTY

WELL NUMBER.--294330082445001. USGS Observation Well near Trenton, FL.

LOCATION.--Lat 29°43'30", long 82°44'50", in NW¼NW¼NE¼ sec.7, T.9 S., R.16 E., Hydrologic Unit 03110206, on southwest corner of intersection of State Highways 47 and 232, 8.5 mi north of Trenton.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 101 ft, cased to 55 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of recorder shelf, 2.75 ft above land-surface datum.

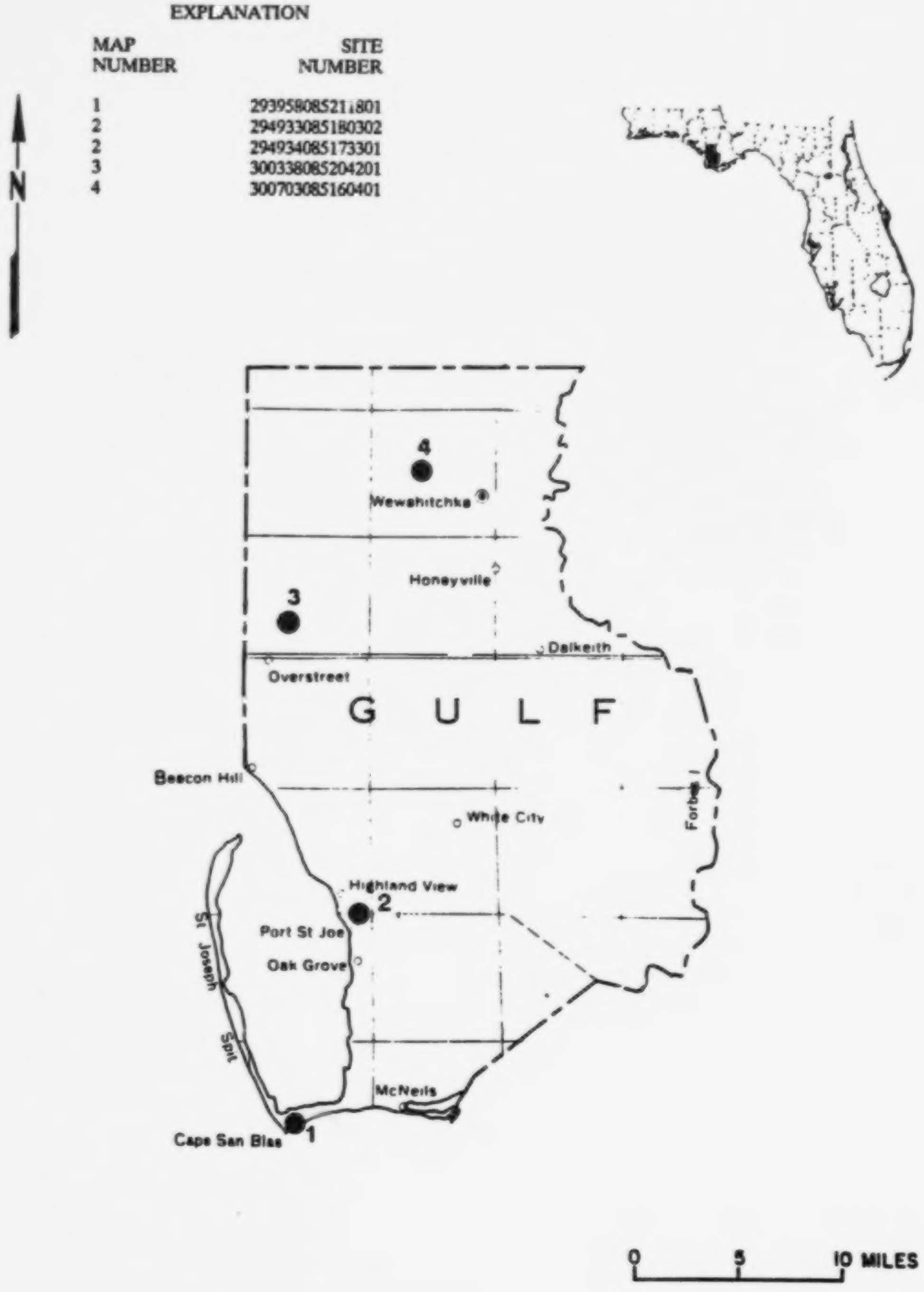
DATUM.--Land-surface datum is 84.56 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--July 1964 to May 1965 (bimonthly), June 1965 to September 1987 (continuous water level recorder); October 1987 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 74.68 ft NGVD, Oct. 10, 1965; lowest, 44.26 ft NGVD, Jan. 20, 21, 1978.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT 26...	1250	61.61	APR 25...	1425	50.39
NOV 17...	0915	59.29	MAY 11...	1230	49.70
DEC 29...	1150	55.93	JUN 14...	1100	48.44
JAN 25...	1150	54.31	JUL 14...	1120	47.89
FEB 20...	0840	53.01	AUG 18...	0830	48.05
MAR 28...	1300	51.52	SEP 19...	1400	54.35



EXPLANATION

MAP NUMBER	SITE NUMBER
1	293958085211801
2	294933085180302
2	294934085173301
3	300338085204201
4	300703085160401

N
4
Wewahitchka
Honeyville
3
Dalkeith
Overstreet
G U L F
Beacon Hill
White City
Forbes
Highland View
2
Port St Joe
Oak Grove
St Joseph
Spit
McNeils
Cape San Blas
1
0
5
10 MILES

Figure 35.--Location of wells in Gulf County.

WELL NUMBER.--293958085211301. Local Number D3A. U.S. Air Force Well near Port St. Joe, FL.

LOCATION.--Lat 29°39'58", long 85°21'18", in NE¼NE¼SE¼ sec.29, T.9 S., R.11 W., Hydrologic Unit 03140101, 0.3 mi south of Cape San Blas Lighthouse, 3.2 mi west of intersection of State Highway 30E and U.S. Highway 98, and 10 mi southwest of Port St. Joe.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 595 ft, cased to 487 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of bushing, 1.48 ft above land-surface datum.

DATUM.--Land-surface datum is 7.24 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--April 1961 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.44 ft NGVD, Apr. 27, 1961; lowest measured, 6.00 ft NGVD, May 18, 1983.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 10...	1545	7.37	MAY 04...	1115	7.46
JAN 11...	1330	7.07	JUL 13...	1630	7.53
MAR 08...	1355	7.03	SEP 19...	1530	7.17

WELL NUMBER.--294933085180302. Town of Port St. Joe Well Number 1 at Port St. Joe, FL.

LOCATION.--Lat 29°49'33", long 85°18'03", SW¼NE¼NW¼ sec.36, T.7 S., R.11 W., Hydrologic Unit 03140104, in fenced area on east side of water treatment plant at Port St. Joe.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public-supply, artesian well, diameter, depth and length of casing unknown.

DATUM.--Elevation of land-surface datum is 12 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water quality records prior to October 1984 are in the files of the U.S. Geological Survey.

PERIOD OF RECORD.--Water Quality: May 1981 to current year (bimonthly, discontinued).

CONDUCTANCE, TEMPERATURE AND CHLORIDE DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
JAN 11...	1220	--	670	22.0	20	JUL 13...	1545	--	693	25.5	17
MAY 04...	1030	--	689	25.5	16	SEP 20...	1500	--	680	25.5	18

GULF COUNTY

WELL NUMBER.--294934085173301. St. Joe Paper Company Well at Port St. Joe, FL.

LOCATION.--Lat 29°49'34", long 85°17'33", NW¼NE¼SE¼ sec.36, T.7 S., R.11 W., Hydrologic Unit 03140101, about 100 ft south of canal, 0.55 mi northeast of water treatment plant at Port St. Joe.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 16 in, depth and casing length unknown.

INSTRUMENTATION.--Tape measured. Measuring point: Top of 1 in hole in pumpbase 1.3 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 18 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--May 1980 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.20 ft NGVD, Jan. 13, 1982, lowest measured -9.25 ft NGVD, May 27, 1981.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 10...	1450	-1.90	MAY 04...	1010	-4.36
JAN 11...	1205	-4.25	JUL 13...	1535	-3.58
MAR 08...	1245	-4.53	SEP 20...	1450	-3.76

WELL NUMBER.--300338085204201. FICO Farms well near Overstreet, FL.

LOCATION.--Lat 30°03'38", long 85°20'42", SW¼NE¼SE¼ sec.9, T.5 S., R.11 W., Hydrologic Unit 03140101, on south side of unpaved farm road about 600 ft east of an irrigation supply well, 1.7 mi east of Wetappo Creek and 8.0 mi northeast of Overstreet.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled unused irrigation, artesian well, diameter 6 in., depth 600 ft., casing length unknown.

INSTRUMENTATION.--Tape measured. Measuring point: Top of 6 in. casing, 1.5 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 25 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water levels affected by pumping of nearby wells.

PERIOD OF RECORD.--November 1982 to May 1985 (semiannually). October 1985 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.08 ft NGVD, May 18, 1983, lowest measured, -11.97 ft NGVD, May 11, 1984.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 10...	1100	19.15	MAY 05...	1200	17.51
JAN 11...	1000	19.16	SEP 20...	1150	12.79
MAR 08...	1050	17.70			

WELL NUMBER.--300703085160401. Exxon Supply Well near Wewahitchka, FL.

LOCATION.--Lat 30°07'03", long 85°16'04", in SW¼NE¼SW¼ sec. 20, T.4 S., R.10 W., Hydrologic Unit 03140101, 300 ft east of dirt road, 2.0 mi south of State Highway 22, 4.5 mi west of Wewahitchka.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, supply, unused, artesian well, diameter 8 in., depth 242 ft, cased to 232 ft.

INSTRUMENTATION.--Water-level recorder. Measuring point: Top of shelter floor 3.18 ft above land-surface datum.

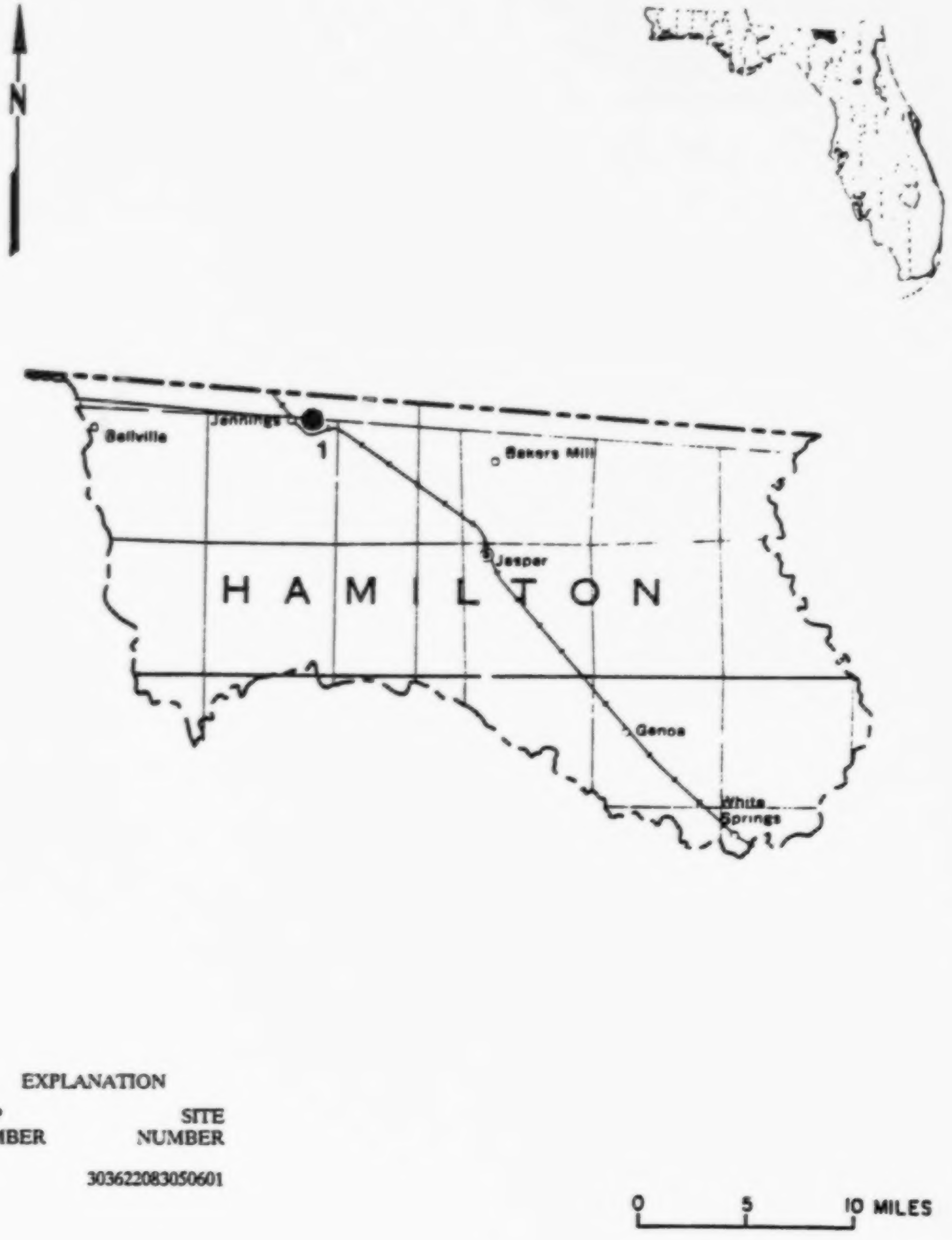
DATUM.--Elevation of land-surface datum is 41 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--November 1980 to April 1981 (bimonthly); May 1981 to current year (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured 29.60 ft NGVD, Apr. 23, 1983; lowest 13.03 ft NGVD, Mar. 12, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	26.75	26.68	26.84	20.34	17.44	---	19.96	22.86	24.04	25.34	26.08	26.02
10	26.79	26.51	26.97	18.93	17.19	13.25	20.56	23.08	24.25	25.40	26.12	26.05
15	26.71	26.61	27.01	17.81	16.28	14.24	21.40	23.30	24.41	25.55	26.19	25.85
20	26.11	26.79	26.97	16.86	15.58	15.85	21.96	22.92	24.74	25.78	25.67	25.21
25	25.88	26.82	26.55	17.60	14.42	17.47	22.02	23.30	24.95	25.77	25.76	25.07
EOM	26.24	26.85	22.84	16.97	14.28	19.10	22.38	23.60	25.10	25.96	25.98	25.21
MAX	26.85	26.97	27.08	22.36	17.44	---	22.38	23.60	25.10	25.96	26.19	26.05


N
Bellville
Jennings
1
Bakers Mill
Jasper
HAMILTON
Genoa
White Springs
0
5
10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	303622083050601

Figure 36.--Location of wells in Hamilton County.

WELL NUMBER.--303622083050601. Ben Bates well at Jennings, FL.

LOCATION.--Lat 30°36'22", long 83°05'06", in NW1/4SE1/4NE1/4 sec.2, T.2 N., R.12 E., Hydrologic Unit 03110202, 0.7 mi northeast of Jennings and 1.3 mi south of Florida - Georgia state line.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, irrigation, artesian well, diameter 10 in., depth 273 ft, cased to 60 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Bottom of discharge pipe, 2.0 ft above land-surface datum.

DATUM.--Land-surface datum is 147.93 ft above National Geodetic Vertical Datum of 1929. Prior to September 26, 1984, land-surface datum was reported as 148.70 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--January to July 1961 (semiannually); March 1962 to October 1978 (bimonthly); February 1979 to July 1981 (semiannually); April 1982 to December 1985 (bimonthly); January 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 69.81 ft NGVD, Feb. 19, 1986; lowest 34.91 ft NGVD, October 31, 1978. Water level was lower on Nov. 4, 1968, when water was below pump column.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT 24...	1205	41.71	MAY 15...	1000	42.68
NOV 30...	1300	40.35	JUN 19...	1030	42.97
DEC 22...	0950	39.46	JUL 17...	1320	44.73
JAN 24...	0940	36.64	AUG 16...	1130	43.24
MAR 30...	0925	42.39	SEP 15...	1045	41.10
APR 24...	1135	44.43			

EXPLANATION

MAP NUMBER	SITE NUMBER
1	304322085561401

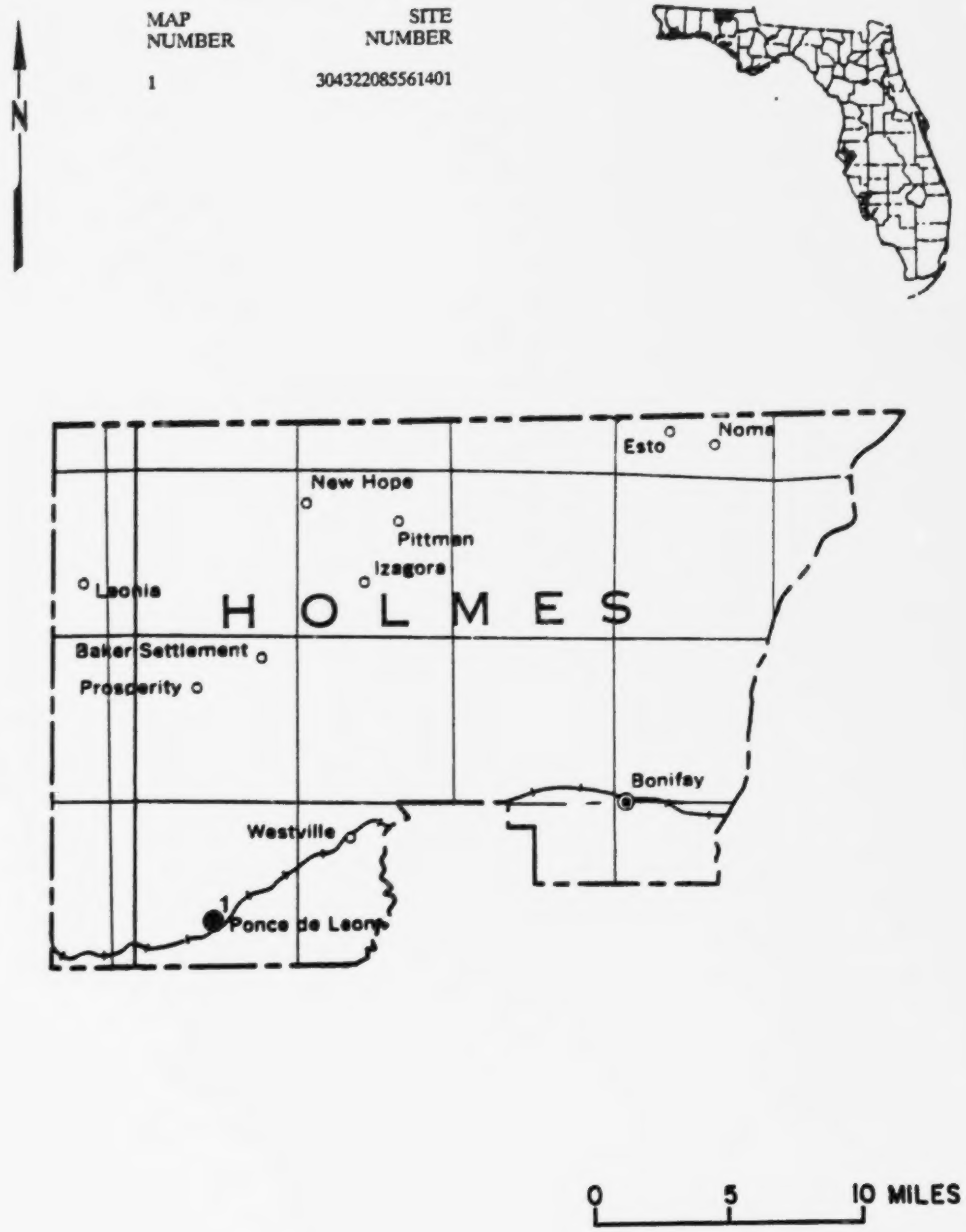

N
Esto
Noma
New Hope
Pittman
Izagora
Leonia
HOLMES
Baker Settlement
Prosperity
Bonifay
Westville
1
Ponce de Leon
0
5
10 MILES

Figure 37.--Location of wells in Holmes County.

WELL NUMBER.--304322085561401. Local Number 4. Mrs. Dan Hughes Well at Ponce de Leon, FL.

LOCATION.--Lat 30°43'22", long 85°56'14", in SE¼NE¼SE¼ sec.28, T.4 N., R.17 W., Hydrologic Unit 03140203, at water tower, south of Louisville and Nashville Railroad tracks at Ponce de Leon.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public-supply, artesian well, diameter 6 in., depth 187 ft, casing length unknown.

INSTRUMENTATION.--Pressure gage or tape measured. Measuring point: Top of reducing tee, 1.50 ft above land-surface datum.

DATUM.--Land-surface datum is 62.18 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water levels affected by pumping at times.

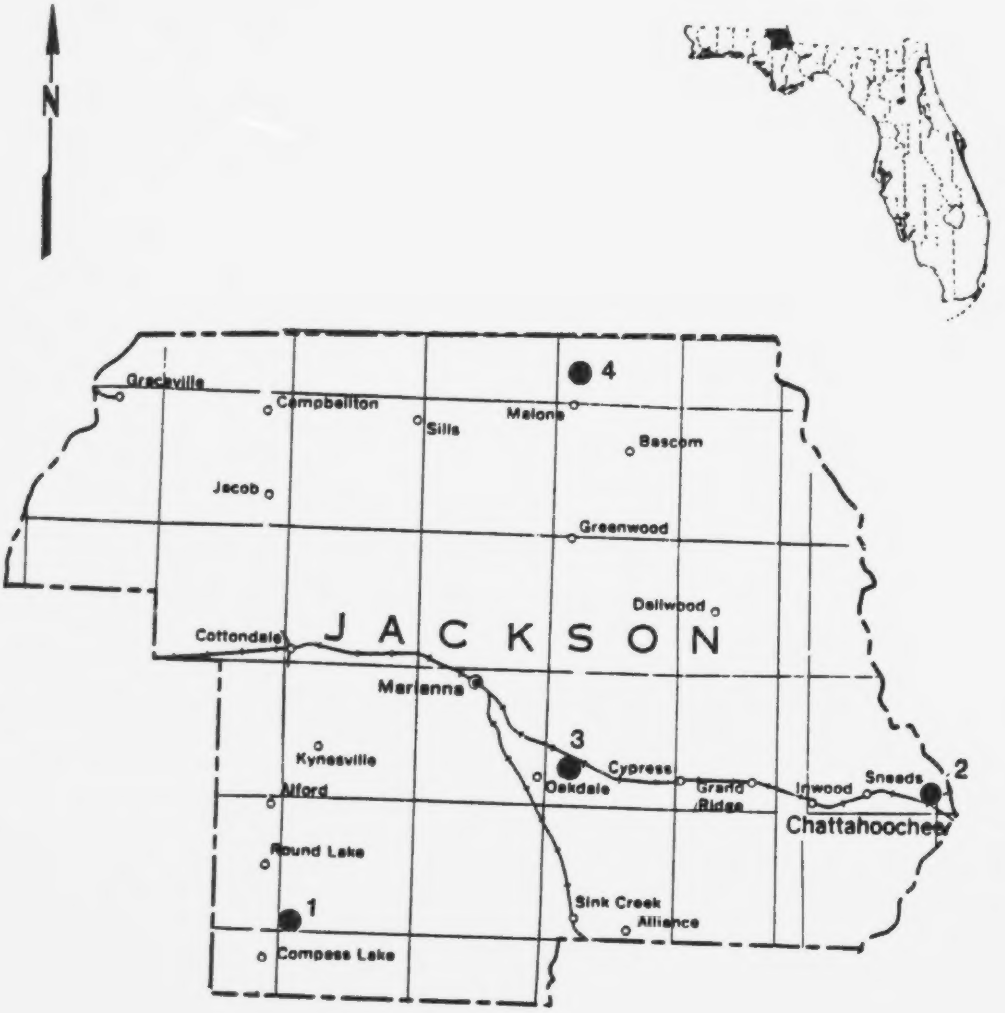
PERIOD OF RECORD.--June 1938 (annually); September 1947 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 69.08 ft NGVD, May 6, 1964; lowest measured, 62.20 ft NGVD, Nov. 6, 1974. (Previously reported 62.10 ft NGVD, Dec. 10, 1986.)

CORRECTION.--Dec. 10, 1986 elevation 62.10 in error. Correct value 62.42.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 09...	1135	63.76	MAY 03...	1045	63.84
JAN 10...	1230	63.86	JUL 11...	1505	65.28
MAR 22...	1430	63.90	SEP 19...	1135	64.30


N
Graceville
Campbellton
Sills
Malone
4
Bascom
Jacob
Greenwood
Dellwood
Cottondale
JACKSON
Marianna
Kynesville
3
Cypress
Oakdale
Grand Ridge
Inwood
Sneads
2
Chattahoochee
Alford
Round Lake
Sink Creek
Alliance
1
Compass Lake
0 5 10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	303701085231301
2	304230084535901
3	304413085064401
4	305755085102401

Figure 38.--Location of wells in Jackson County.

WELL NUMBER.--303701085231301. Florida Forest Service Observation Well near Compass Lake, FL.

LOCATION.--Lat 30°37'01", long 85°23'13", in NE¼NE¼SE¼ sec.36, T.3 N., R.11 W., Hydrologic Unit 03140101, 100 ft east of U.S. Highway 231, 1.0 mi north of Compass Lake.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, unused, artesian well, diameter 4 in., depth 522 ft, cased to 433 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of 4 in. casing, 1.0 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 305 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--May 1980 (annually); October 1981 to September 1982 (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 105.90 ft NGVD, June 21, 1984; lowest measured, 97.20 ft NGVD, Jan. 21, 1982.

ELEVATION, IN FEET, NGVD, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 08...	1350	100.60	MAY 02...	1425	99.74
JAN 10...	1625	100.00	JUL 11...	1215	101.90
MAR 07...	1130	99.95	SEP 15...	0850	102.11

WELL NUMBER.--304230084535901. Homer Hirt well near Sneads, FL.

LOCATION.--Lat 30°42'32", long 84°53'59", in SE¼SW¼SE¼ sec.26, T.4 N., R.7 W., Hydrologic Unit 03130004, 200 ft north of U.S. Highway 90, 1.55 mi east of intersection of U.S. Highway 90 and State Highway 286 at Sneads.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 4 in., depth 101 ft, cased to 70 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of coupling, 1.45 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 98 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--November 1982 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 80.48 ft NGVD, Mar. 1, 1984; lowest measured, 70.96 ft NGVD, Sept. 18, 1986.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 04...	1320	72.47	JUL 10...	0955	77.33
MAR 16...	1325	71.74	SEP 13...	1230	73.19
MAY 02...	0755	73.21			

WELL NUMBER.--304413085064401. Local Number 46. International Paper Corporation Well near Cypress, FL.

LOCATION.--Lat 30°44'13", long 85°06'44", in NW¼NW¼NW¼ sec.23, T.4 N., R.9 W., Hydrologic Unit 03130012, 600 ft south of U.S. Highway 90 and 2.0 mi west of intersection of U.S. 90 and SR 275 at Cypress.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, observation, artesian well, diameter 4 in., depth 210 ft, cased to 94 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of steel plate, 1.00 ft above land-surface datum.

DATUM.--Land-surface datum is 166.75 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--February 1961 to July 1964 (bimonthly); January 1965 to May 1977 (semiannually); November 1977 to current year (bimonthly, discontinued). Records of water levels prior to October 1975 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 106.89 ft NGVD, May 7, 1984; lowest measured, 82.18 ft NGVD, Jan. 6, 1969.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 04...	1315	89.02	MAY 16...	0950	86.08
JAN 10...	1015	87.70	JUL 10...	1200	95.91
MAR 07...	1000	86.42	SEP 13...	1300	96.35

WELL NUMBER.--305755085102401. Hollingsworth Well near Malone, FL.

LOCATION.--Lat 30°57'55", long 85°10'24", in SE¼SW¼NW¼ sec.31, T.7 N., R.9 W., Hydrologic Unit 03130012, 0.4 mi north of State Highway 2, and 0.7 mi west of State Highway 71, near Malone.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 90 ft, cased to 60 ft.

INSTRUMENTATION.--Water-level recorder. Measuring point: Top of recorder shelf, 1.0 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 147 ft above National Geodetic Vertical Datum of 1929, from topographic map.

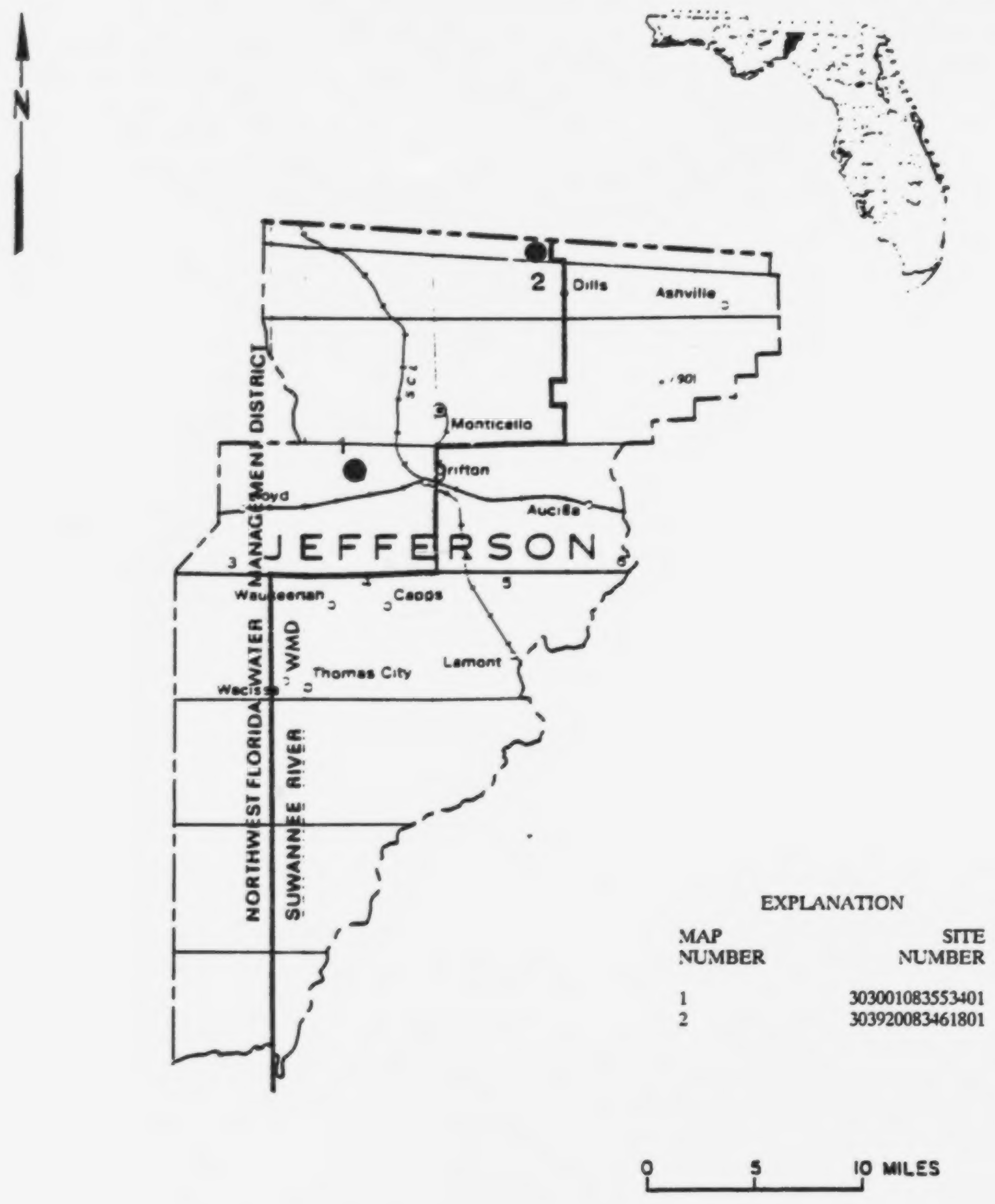
PERIOD OF RECORD.--November 1982 to current year (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 124.65 ft NGVD, May 21, 1983; lowest, 97.01 ft NGVD, Mar. 21, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	101.23	100.36	99.41	98.54	97.78	97.22	97.24	97.79	97.92	108.62	112.13	110.47
10	101.11	100.19	99.27	98.39	97.67	97.23	97.25	97.84	---	110.71	111.85	110.19
15	100.96	100.04	99.12	98.29	97.53	97.15	97.35	97.90	102.25	111.43	111.72	109.83
20	100.83	99.90	98.97	98.17	97.44	97.08	97.52	97.94	104.12	111.74	111.50	109.44
25	100.66	99.72	98.83	98.03	97.34	97.14	97.63	97.93	105.91	111.89	111.26	109.07
EOM	100.49	99.59	98.65	97.91	97.26	97.20	97.71	97.93	106.80	112.09	110.84	108.68
MAX	101.36	100.47	99.55	98.62	97.88	97.25	97.71	97.94	---	112.11	112.15	110.74

CAL YR 1988 MAX 110.64


N
1
2
Dills
Ashville
Monticello
Drifton
Boyd
Aucilla
JEFFERSON
3
4
5
Wauzeenah
Capps
Lamont
Thomas City
Wacissa
NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
SUWANNEE RIVER WMD
0
5
10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	303001083553401
2	303920083461801

Figure 39.--Location of wells in Jefferson County.

WELL NUMBER.--303001083553401. Joseph Bellamy Well near Monticello, FL.

LOCATION.--Lat 30°30'01", long 83°55'34", in SW¼SE¼NE¼ sec.9, T.1 N., R.4 E., Hydrologic Unit 03120001, 1.2 mi west of SR 259, 2.1 mi east of S-158, and 4.5 mi southwest of Monticello.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 175 ft, cased to 139 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of sanitary seal, 0.70 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 175 ft, above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--November 1982 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.56 ft NGVD, Apr. 29, 1987; lowest measured, 33.15 ft NGVD, Jan. 4, 1983.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEV-ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV-ATION ABOVE NGVD (FEET)
DEC 02...	1600	34.83	MAR 13...	1010	34.27
JAN 27...	1200	34.57	JUN 23...	1320	35.49

WELL NUMBER.--303920083461801. Merrily Plantation Well near Dills, FL.

LOCATION.--Lat 30°39'20", long 83°46'20", in land grant 155, T.3 N., R.6 E., Hydrologic Unit 03110103, 0.3 mi south of Florida-Georgia border, 2.1 mi north of Dills, and 2.5 mi east of S-149.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, irrigation, artesian well, diameter 10 in., depth 300 ft., cased to 185 ft.

INSTRUMENTATION.--Water-level recorder. Measuring point: Top of recorder shelf, 0.55 ft. above land-surface datum.

DATUM.--Land-surface datum is 125.14 ft above National Geodetic Vertical Datum of 1929.

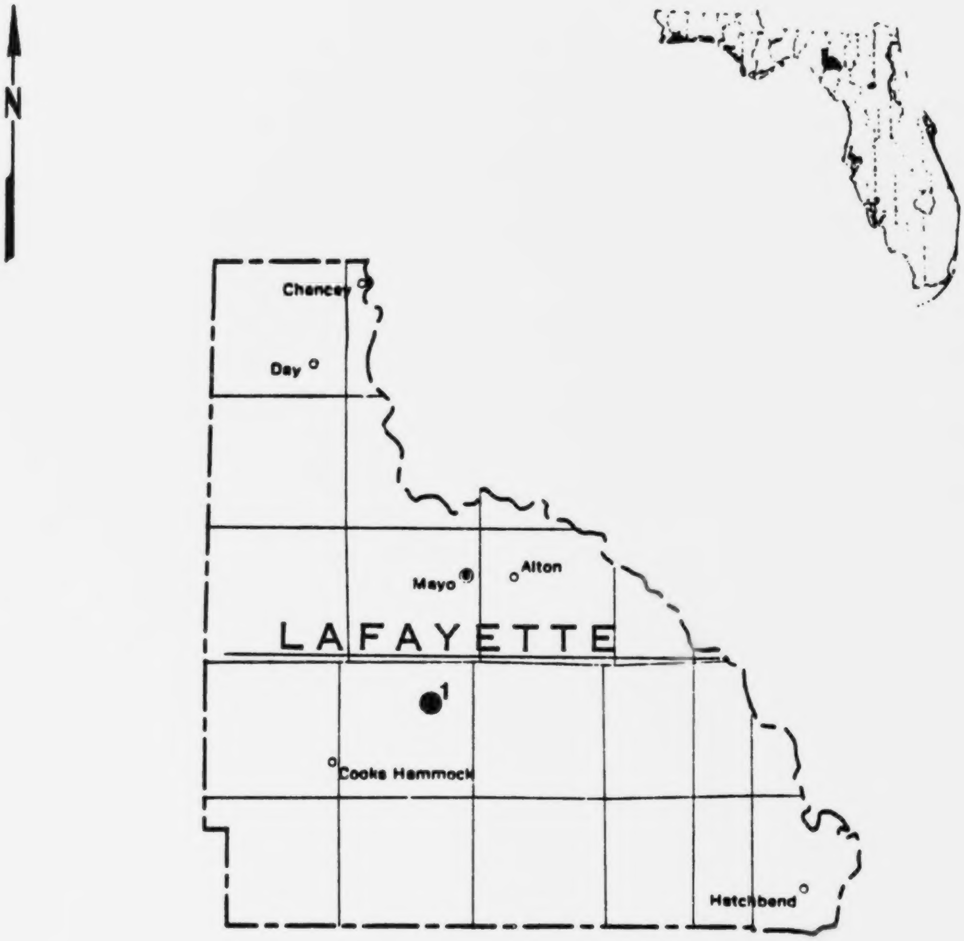
PERIOD OF RECORD.--May 1987 to current year (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 74.14 ft. NGVD, May 19, 20, 1987; lowest, 63.80 ft. NGVD, June 4, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	67.10	66.94	66.19	65.85	65.39	65.06	64.81	64.54	63.95	65.09	65.69	65.65
10	67.16	66.60	66.21	65.73	65.26	64.56	64.72	64.51	64.24	65.10	65.65	65.69
15	67.03	66.31	66.12	65.75	65.16	64.75	64.80	64.37	64.59	65.16	65.76	65.65
20	66.97	66.41	65.99	65.69	65.21	64.82	64.74	64.27	64.83	65.24	65.72	65.57
25	66.90	66.32	66.02	65.54	65.06	64.76	64.65	64.17	64.97	65.34	65.74	65.53
EOM	66.80	66.28	65.97	65.51	65.13	64.85	64.60	63.95	65.02	65.55	65.70	65.41
MAX	67.24	66.94	66.25	66.03	65.49	65.14	64.86	64.65	65.03	65.55	65.76	65.74

CAL YR 1988 MAX 69.82
WTR YR 1989 MAX 67.24


N
Chancey
Day
Mayo
Alton
LAFAYETTE
1
Cooks Hammock
Hatchbend

EXPLANATION

MAP NUMBER	SITE NUMBER
1	295802083121001

0 5 10 MILES

Figure 40.--Location of wells in Lafayette County.

WELL NUMBER.--295802083121001. Lester McCray Well near Mayo, FL.

LOCATION.--Lat 29°58'02", long 83°12'10", in NW¼NW¼NW¼ sec.14, T.6 S., R.11 E., Hydrologic Unit 03110102, 0.6 mi southeast of State Highway 51, 5.0 mi northeast of Cooks Hammock and 5.8 mi south of Mayo.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, irrigation, artesian well, diameter 6 in., depth 146 ft, cased to 112 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top edge of recorder shelf, 3.63 ft above land-surface datum.

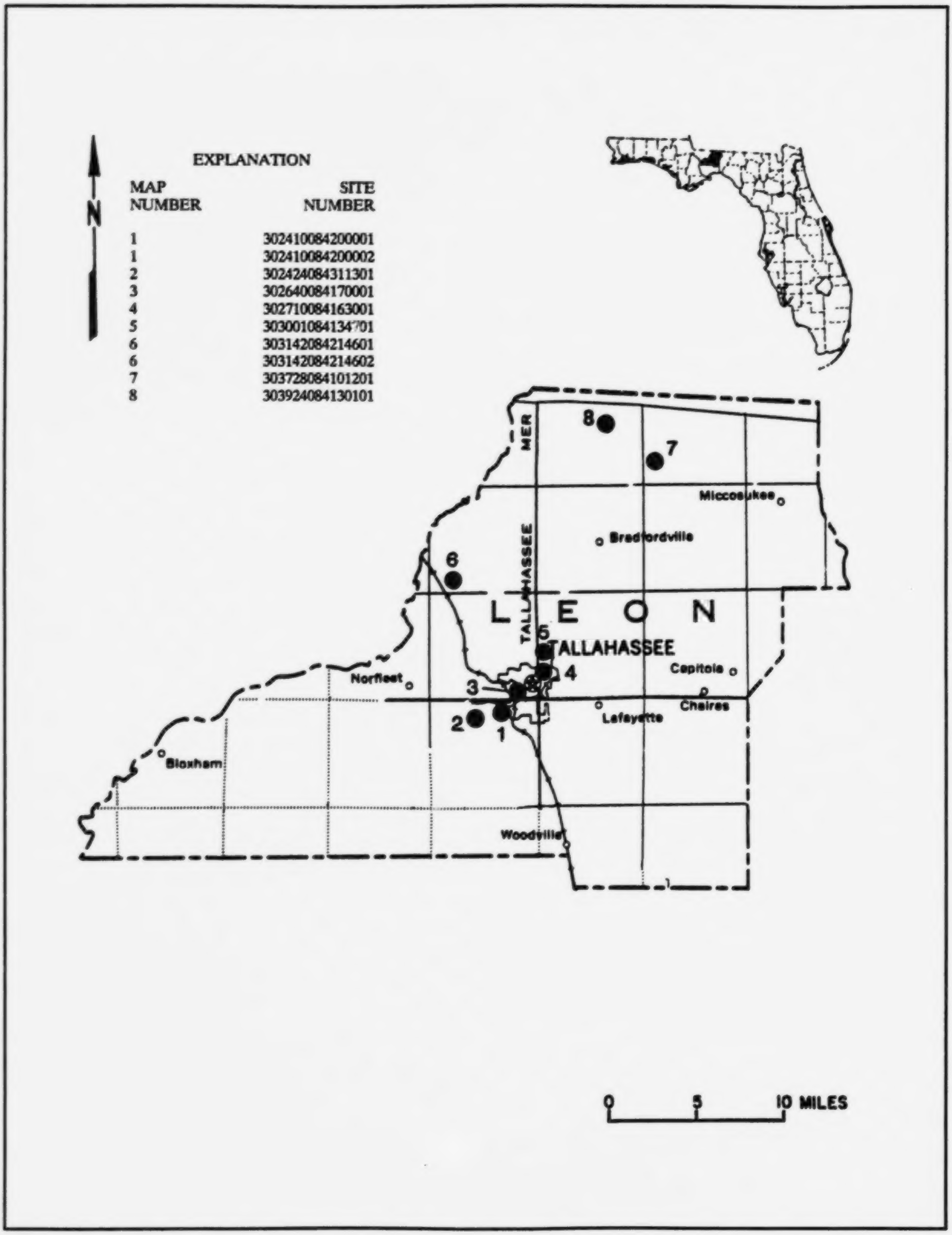
DATUM.--Land-surface datum is 73.85 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--February 1961 to March 1976 (bimonthly); May 1976 to September 1984; October 1984 to December 1985 (bimonthly); January 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 70.71 ft NGVD, Apr. 9, 1983; lowest measured, 62.13 ft NGVD, Nov. 4, 1968.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT			APR		
17...	1345	68.04	11...	1415	64.62
NOV			MAY		
29...	1015	66.69	09...	1420	63.87
DEC			JUN		
23...	1350	66.57	26...	1020	64.68
JAN			JUL		
19...	0800	66.01	21...	1230	65.48
FEB			AUG		
14...	1300	65.45	23...	1010	66.94
MAR			SEP		
21...	1320	65.51	25...	1015	68.10


N
8
7
Miccosukee
MER
TALLAHASSEE
Bradfordville
6
L E O N
5
TALLAHASSEE
4
3
Capitola
Norfleet
Chaires
2
1
Lafayette
Bloxham
Woodville
0
5
10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	302410084200001
1	302410084200002
2	302424084311301
3	302640084170001
4	302710084163001
5	303001084134701
6	303142084214601
6	303142084214602
7	303728084101201
8	303924084130101

Figure 41.--Location of wells in Leon County.

WELL NUMBER.--302410084200001. Local number 150. Florida State University well near Tallahassee, FL.

LOCATION.--Lat 30°24'10", long 84°20'00", in NW1/4SW1/4NE1/4 sec.16, T.1 S., R.1 W., Hydrologic Unit 03120001, 250 ft west of Lake Bradford Road and 4.0 mi southwest of State Capitol in Tallahassee, FL.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 57 ft, cased to 57 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 3.00 ft above land-surface datum.

DATUM.--Land-surface datum is 37.51 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--May 1960 to February 1965; April 1965 to September 1972 (bimonthly); September 1972 to September 1979; October 1979 to May 1981 (semiannually); May 1981 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 31.95 ft NGVD, Apr. 12, 1973; lowest, 18.20 ft NGVD, June 27, 1969.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV			MAY		
07...	1705	22.78	09...	0925	20.86
JAN			JUL		
09...	1430	21.86	03...	0735	24.95
MAR			SEP		
06...	0815	20.87	05...	0900	25.13

WELL NUMBER.--302410084200002. Local number 150A. Florida State University well near Tallahassee, FL.

LOCATION.--Lat 30°24'10", long 84°20'00", in NW1/4SW1/4NE1/4 sec.16, T.1 S., R.1 W., Hydrologic Unit 03120001, 250 ft west of Lake Bradford Road and 4.0 mi southwest of State Capitol in Tallahassee, FL.

AQUIFER.--Nonartesian sand aquifer of the Quaternary System, Geologic Unit 110 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, diameter 11/4 in., depth 15 ft, cased to 12 ft, well point from 12 to 15 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 3.00 ft above land-surface datum.

DATUM.--Land-surface datum is 37.52 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--May 1960 to October 1979 (bimonthly); October 1979 to May 1981 (semiannually); May 1981 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 36.16 ft NGVD, Apr. 4, 1973; lowest measured, 25.66 ft NGVD, June 27, 1969.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV			MAY		
07...	1710	29.12	09...	0930	27.55
JAN			JUL		
09...	1435	28.61	03...	0740	30.92
MAR			SEP		
06...	0830	28.01	05...	0900	32.07

WELL NUMBER.--302424084311301. City of Tallahassee Airport Well near Tallahassee, FL.

LOCATION.--Lat 30°24'24", long 84°21'13", in NE¼SE¼SW¼ sec. 8, T.1 S., R.1 W., Hydrologic Unit 03120001, 150 ft west of State Highway 263, 0.7 mi northeast of airport control tower, and 5.0 mi southwest of State Capitol at Tallahassee, FL.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, municipal, artesian well, diameter 10 in., depth 194 ft cased to 190 ft.

INSTRUMENTATION.--Water-level recorder. Measuring point: Top of recorder shelf, 1.65 ft above land-surface datum.

DATUM.--Land-surface datum is 67.18 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Extremes may have been exceeded during periods of missing record.

PERIOD OF RECORD.--June 1977 to current year (incomplete).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 30.58 ft NGVD, April 23, 1984; lowest, 18.74 ft NGVD, Sept. 3, 1988.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	19.50	18.96	18.27	17.87	17.17	16.84	17.06	17.02	16.62	22.48	23.69	22.07
10	19.56	18.77	18.24	17.75	16.99	16.72	17.08	16.96	16.89	23.21	23.36	21.91
15	19.44	18.62	18.16	17.63	16.87	16.62	17.14	16.96	17.88	23.67	23.13	21.64
20	19.34	18.51	18.05	17.50	16.83	16.57	17.21	16.83	19.05	23.90	22.80	21.36
25	19.19	18.37	18.05	17.32	16.79	16.78	17.11	16.78	20.90	23.98	22.46	21.12
EOM	19.03	18.38	17.97	17.27	16.80	17.01	16.98	16.69	21.74	23.90	22.21	21.02
MAX	19.56	19.01	18.37	17.96	17.27	17.01	17.21	17.02	21.74	24.01	23.86	22.19

CAL YR 1988 MAX 26.52
WTR YR 1989 MAX 24.01

WELL NUMBER.--302640084170001. Leon 152. State of Florida Observation Well at Tallahassee, FL.

LOCATION.--Lat 30°26'40", long 84°17'00", in NW¼SW¼NE¼ sec.35, T.1 N., R.1 W., Hydrologic Unit 03120001, behind Herman Gunter Building, at corner of West Tennessee Street and Woodward Street, 2.7 mi west of State Capitol at Tallahassee.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 to 4 to 3 in., depth 310 ft, cased to 146 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of 6 in casing, 0.86 ft above land-surface datum. Since October 15, 1960 water-level recorder, used for display purposes only at Herman Gunter Building.

DATUM.--Land-surface datum is 100.52 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--August 1960 (annually); October 1960 to December 1961; January 1962 to current year (bimonthly). Records of water levels prior to January 1974 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 32.76 ft NGVD, July 1, 1965; lowest measured, 18.00 ft NGVD, Nov. 18, 1981.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 30...	1325	20.86	JUL 05...	1115	23.00
MAR 27...	1120	19.37	AUG 31...	0915	23.36
MAY 09...	0935	19.20			

WELL NUMBER.--302710084163001. Local number 7, City of Tallahassee Test Well at Tallahassee, FL.

LOCATION.--Lat 30°27'10", long 84°16'30", in NE¼SW¼SW¼ sec.30, T.1 N., R.1 E., Hydrologic Unit 03120001, in pump house at Lafayette Park, 1.3 mi northeast of State Capitol at Tallahassee.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 6 in., depth 314 ft, cased to 165 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 1.20 ft above land-surface datum.

DATUM.--Land-surface datum is 186.50 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--June 1945 to January 1965; February 1965 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level 37.66 ft NGVD, Apr. 26, 1948; lowest 16.42 ft NGVD, June 14, 1955.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT			MAY		
31...	0920	22.12	01...	1315	20.19
NOV			JUN		
30...	1250	19.93	01...	0830	19.82
DEC			30...	0925	22.97
27...	0920	21.24	JUL		
JAN			26...	1045	25.30
31...	1100	20.42	AUG		
MAR			31...	1005	23.73
01...	1030	20.06	SEP		
27...	1255	20.20	29...	1150	23.24

WELL NUMBER.--303001084134701. City of Tallahassee Olson Road Well at Tallahassee, FL.

LOCATION.--Lat 30°30'01", long 84°13'47", in SW¼SE¼NE¼ sec.9, T.1 N., R.1 E., Hydrologic Unit 03120001, 50 ft east of Olson Road near Interstate Route 10 and 5.2 mi northeast of State Capitol at Tallahassee.

AQUIFER.--Floridan aquifer of the Tertiary system, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 444 ft, cased to 289 ft.

INSTRUMENTATION.--Water-level recorder. Measuring point: Top edge of 3/8 in. hole in casing, 1.00 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 190 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Extremes may have been exceeded during periods of missing record. Water level records prior to 1987 are available in the files of the U.S. Geological Survey, Florida District.

PERIOD OF RECORD.--October 1979, December 1980 to current year (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 41.89 ft NGVD, Apr. 17, 18, 1984; lowest, 24.81 ft NGVD, Dec. 29, 1981.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	31.47	30.66	30.05	29.30	28.59	28.62	28.26	26.18	27.47	31.11	30.36	29.71
10	31.35	30.34	29.89	29.34	28.57	28.42	26.13	25.85	25.89	29.34	30.85	29.60
15	31.19	30.26	29.81	29.30	26.19	25.95	28.31	28.08	29.11	31.75	32.29	29.33
20	30.83	30.01	29.75	29.22	26.12	25.73	26.57	25.60	29.68	32.06	31.93	29.19
25	30.74	30.04	29.73	29.09	28.49	28.44	26.00	28.00	30.27	30.25	29.45	31.17
EOM	30.59	30.12	29.64	28.80	28.72	28.52	28.00	25.59	30.60	30.32	31.79	30.96
MAX	31.56	30.66	30.21	29.69	28.86	28.68	28.45	28.24	30.60	32.58	32.49	31.93

WTR YR 1989 MAX 32.58

LEON COUNTY

WELL NUMBER.--303142084214601. USGS Observation Well at Lake Jackson near Tallahassee, FL.

LOCATION.--Lat 30°31'42", long 84°21'46", in NE¼NE¼SE¼ sec.31, T.2 N., R.1 W., Hydrologic Unit 03120003, 0.3 mi south of U.S. Highway 27 and 12 mi northwest of State Capitol at Tallahassee.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, test, artesian well, diameter 6 in., depth 225 ft, cased to 100 ft.

INSTRUMENTATION.--Water-level recorder. Measuring point: Top of recorder shelf, 3.09 ft above land-surface datum.

DATUM.--Land-surface datum is 122.20 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--September 1966 to current year (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 42.94 ft NGVD, May 3, 1984; lowest, 27.75 ft NGVD, June 4, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	31.79	31.37	30.28	30.10	29.29	---	---	---	28.32	32.28	33.80	32.91
10	31.82	31.01	30.27	30.00	28.91	---	---	29.02	28.69	32.78	33.57	32.71
15	31.63	30.84	30.19	29.97	---	---	---	28.92	29.62	33.39	33.58	32.49
20	31.60	30.87	30.12	29.90	---	---	---	28.69	30.34	33.80	33.14	32.29
25	31.40	30.60	30.11	29.24	---	---	---	28.69	31.10	34.04	32.78	32.36
EOM	31.28	30.28	30.22	29.29	---	---	---	28.43	31.70	34.18	33.07	32.33
MAX	31.99	31.37	30.29	30.22	---	---	---	---	31.70	34.22	34.10	33.19

CAL YR 1988 MAX 38.05

WELL NUMBER.--303142084214602. USGS Observation Well at Lake Jackson near Tallahassee, FL.

LOCATION.--Lat 30°31'42", long 84°21'46", in NE¼NE¼SE¼ sec.31, T.2 N., R.1 W., Hydrologic Unit 03120003, 0.3 mi south of U.S. Highway 27 and 12 mi northwest of State Capitol at Tallahassee.

AQUIFER.--Hawthorn sand-and-gravel aquifer of the Miocene Series, Geologic Unit 122 HTRNS.

WELL CHARACTERISTICS.--Drilled, test, artesian well, diameter 6 in, depth 54 ft, cased to 49 ft, screened from 49 to 54 ft.

INSTRUMENTATION.--Water-level recorder. Measuring point: Top of recorder shelf, 3.11 ft above land-surface datum.

DATUM.--Land-surface datum is 122.26 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--September 1966 to current year (discontinued). Records of water levels prior to January 1974 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 93.85 ft NGVD, Sept. 30, 1966; lowest, 79.43 ft NGVD, Dec. 17, 1972.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	84.54	84.33	83.24	82.59	81.94	81.58	81.06	80.66	80.27	81.71	82.96	83.00
10	84.53	83.74	83.20	82.35	81.76	81.17	80.92	80.71	80.20	81.84	82.85	83.14
15	84.31	83.67	83.02	82.47	81.63	81.31	81.10	80.50	80.48	82.14	83.09	83.11
20	84.40	83.69	82.85	82.38	81.95	81.19	80.99	80.36	80.86	82.39	83.06	83.04
25	84.23	83.45	82.99	82.11	81.54	81.03	80.76	80.40	81.24	82.41	83.10	83.09
EOM	84.05	83.29	82.83	82.12	81.76	81.28	80.73	80.21	81.38	82.71	83.07	83.00
MAX	84.79	84.33	83.32	82.84	82.09	81.72	81.15	80.84	81.38	82.72	83.10	83.20

CAL YR 1988 MAX 89.38
WTR YR 1989 MAX 84.79

WELL NUMBER.--303728084101201. Local number 36A. USGS Observation Well at Dawkins Pond near Bradfordville, FL.

LOCATION.--Lat 30°37'28", long 84°10'12", in SE¼SE¼SW¼ sec.30, T.3 N., R.2 E., Hydrologic Unit 0312003, at Dawkins Pond Church, 100 ft west of U.S. Highway 319, and 5.2 mi north of Bradfordville.

AQUIFER.--Hawthorn sand-and-gravel of the Tertiary System, Geologic Unit 122 HTRNS.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, diameter 1¼ in., depth 41 ft, cased to 38 ft, screened from 38 to 41 ft. Well deepened April 1955 from 30 to 41 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 3.85 ft above land-surface datum.

DATUM.--Land-surface datum is 102.12 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--December 1935 to June 1937 (weekly); July 1942 to March 1943 (monthly); March 1943 to December 1943 (weekly); January 1947 to September 1982 (monthly); November 1982 to current year (bimonthly, discontinued). Prior to January 1955 published as Leon 36.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 104.07 ft NGVD, Apr. 27, 1965; lowest measured, 68.46 ft NGVD, Feb. 28, 1957.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV			MAY		
07...	1105	79.71	09...	1400	75.32
JAN			JUL		
09...	1325	77.88	03...	1145	80.49
MAR			SEP		
06...	1200	76.27	05...	1300	81.68

WELL NUMBER.--303924084130101. Tall Timbers Research Well near Iamonia, FL.

LOCATION.--Lat 30°39'24", long 84°13'01", in NW¼SW¼SW¼ sec.15, T.3 N., R.1 E., Hydrologic Unit 03120003, about 0.3 mi west of Tall Timbers Research Center office, about 0.4 mi south of State Highway 12, and 2.8 mi southwest of Iamonia.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, irrigation, artesian well, diameter 8 in., depth 249 ft, cased to 221 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top edge of 6 in. horizontal discharge line, 1.8 ft above land-surface datum.

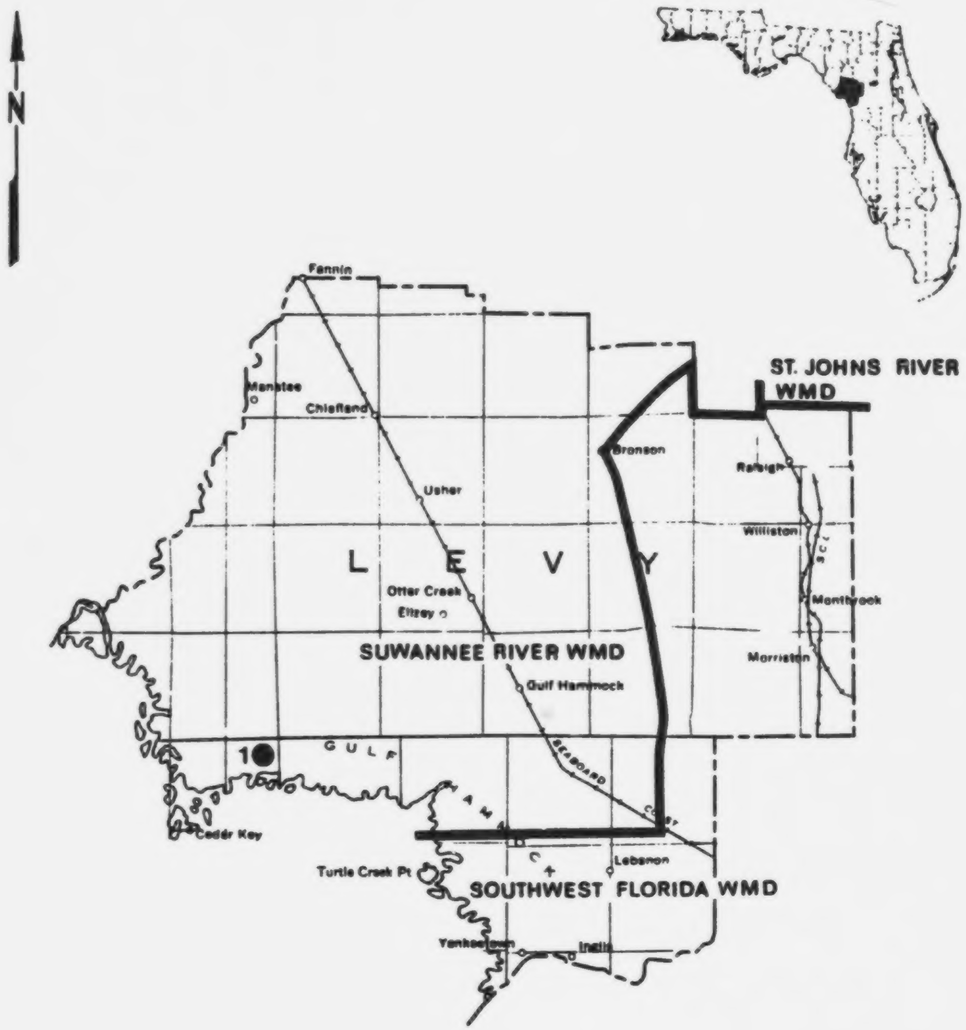
DATUM.--Land-surface datum is 101.42 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--December 1974 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 75.48 ft NGVD, May 3, 1977; lowest measured, 58.82 ft NGVD, Dec 17, 1981.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV			MAY		
07...	1135	64.55	09...	1310	61.58
JAN			JUL		
09...	1235	63.39	03...	1045	65.64
MAR			SEP		
06...	1115	62.63	05...	1200	61.21


N
ST. JOHNS RIVER WMD
Fannin
Manatee
Chiefland
Bronson
Raleigh
Usher
Williston
SCL
L E V Y
Otter Creek
Ellzey
Montbrook
SUWANNEE RIVER WMD
Morriston
Gulf Hammock
1
GULF HAMMOCK
SEABOARD COAST
Cedar Key
Lebanon
Turtle Creek Pt
SOUTHWEST FLORIDA WMD
Yankeetown
Inglis
0 5 10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	291414082560901

Figure 42.--Location of wells in Levy County.

WELL NUMBER.--291414082560901. Rosewood Tower Well near Cedar Key, FL.

LOCATION.--Lat 29°14'14", long 82°56'09", in SE¼NW¼NW¼ sec.29, T.14 S., R.14 E., Hydrologic Unit 03110101, 50 ft north of SR 24 at Suwannee Lookout Tower, (Rosewood Tower) 9.4 mi northeast of Cedar Key and 11.6 mi southwest of Otter Creek.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 to 4 in., depth 442 ft, cased to 422 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of recorder shelf, 2.52 ft above land-surface datum.

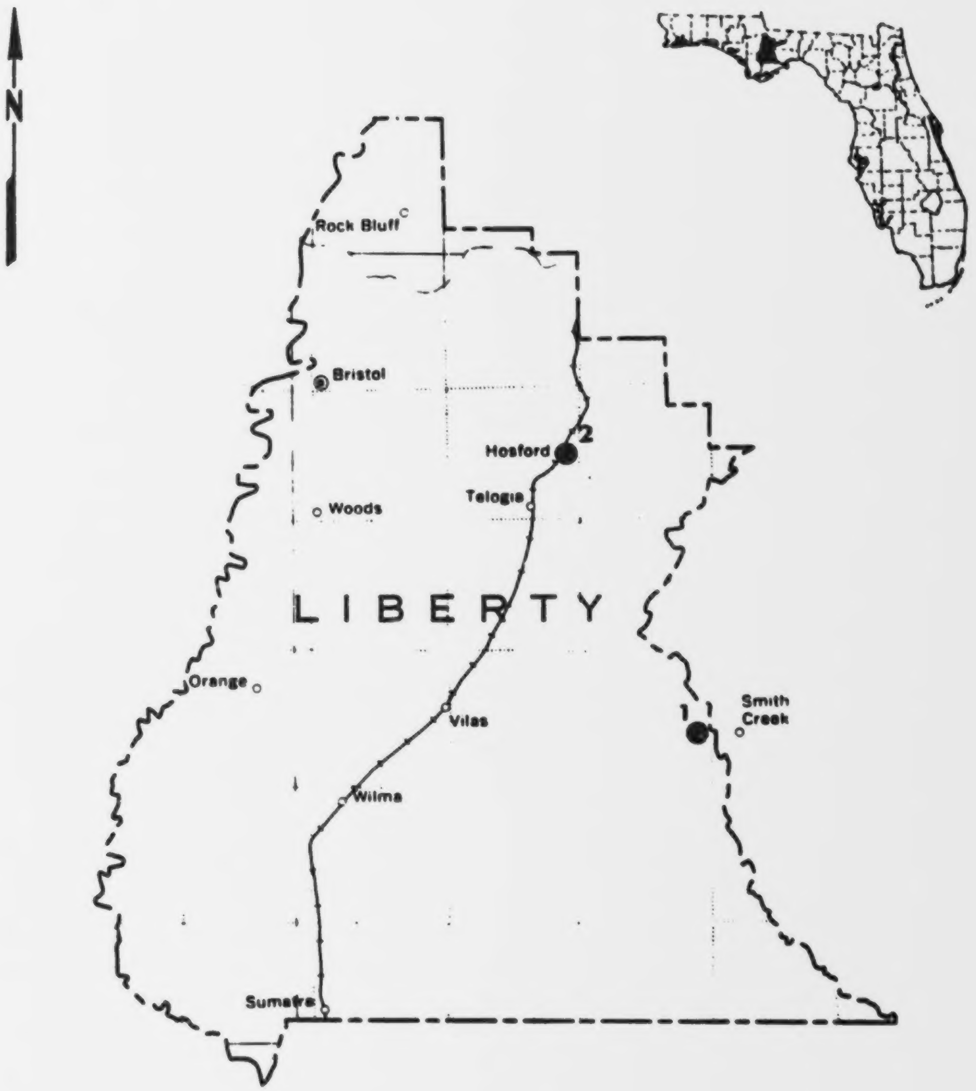
DATUM.--Land-surface datum is 16.93 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--October 1975 to September 1987 (continuous water level recorder); October 1987 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.98 ft NGVD, Mar. 30, 1987; lowest, 8.59 ft NGVD, July 19, 1981.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT			MAY		
25...	1100	11.18	16...	1110	9.67
NOV			16...	1140	9.68
28...	1120	10.97	JUN		
DEC			16...	1045	9.19
22...	1140	10.94	JUL		
JAN			20...	1010	10.25
23...	1030	10.76	AUG		
FEB			24...	1050	10.44
13...	1145	10.57	SEP		
MAR			07...	1300	10.75
23...	1000	10.94			
APR					
20...	1010	10.41			


N
Rock Bluff
Bristol
2
Hosford
Telogia
Woods
LIBERTY
Orange
Vilas
1
Smith Creek
Wilma
Sumatra
0 5 10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	301035084403701
2	302321084473501

Figure 43.--Location of wells in Liberty County.

WELL NUMBER.--301035084403701. U.S. Forest Service, Porter Lake Recreational Area well near Smith Creek, FL.

LOCATION.--Lat 30°10'35", long 84°40'37", in SW¼NE¼NW¼ sec.31, T.3 S., R.4 W., Hydrologic Unit 03120003, at Porter Lake Recreational Area, 3.0 mi east of State Highway 67 and 1.25 mi west of State Highway 375 and Smith Creek.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 118 ft, cased to 89 ft.

INSTRUMENTATION.--Pressure gage measured. Measuring point: Top of coupling, 1.00 ft above land-surface datum.

DATUM.--Land-surface datum is 22.27 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--
ELEVATIONS: January 1974 to November 1977 (bimonthly); May 1978 to May 1981 (semiannually); July 1981 to November 1982 (bimonthly); May 1983 to current year (semiannually, discontinued).
WATER QUALITY: March 1975 to June 1975 (bimonthly); November 1978 to current year (semiannually, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 34.67 ft NGVD, Oct. 9, 1975 and May 15, 1979; lowest measured, 30.87 ft NGVD, Nov. 16, 1981 and Oct. 24, 1984.

ELEVATION, CONDUCTANCE, TEMPERATURE AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEV-ATION ABOVE NGVD (FEET)	SPE-CIFIC CON-DUC-TANCE (US/CM)	TEMPER-ATURE (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	DATE	TIME	ELEV-ATION ABOVE NGVD (FEET)	SPE-CIFIC CON-DUC-TANCE (US/CM)	TEMPER-ATURE (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV 14...	0820	31.87	469	20.0	5.9	SEP 08...	1120	32.27	--	--	--
MAY 23...	1425	31.87	481	21.0	4.8						

WELL NUMBER.--302321084473501. C. W. Roberts Well at Hosford, FL.

LOCATION.--Lat 30°23'21", long 84°47'35", in NE¼NE¼SW¼ sec.13, T.1 S., R.6 W., Hydrologic Unit 03120003, north of State Highway 20, 0.4 mi east of intersection of State Highways 65 and 20 at Hosford.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 3 in., depth 85 ft, cased to 70 ft.

INSTRUMENTATION.--Pressure gage or tape measured. Measuring point: Top of tee, 0.80 ft above land-surface datum.

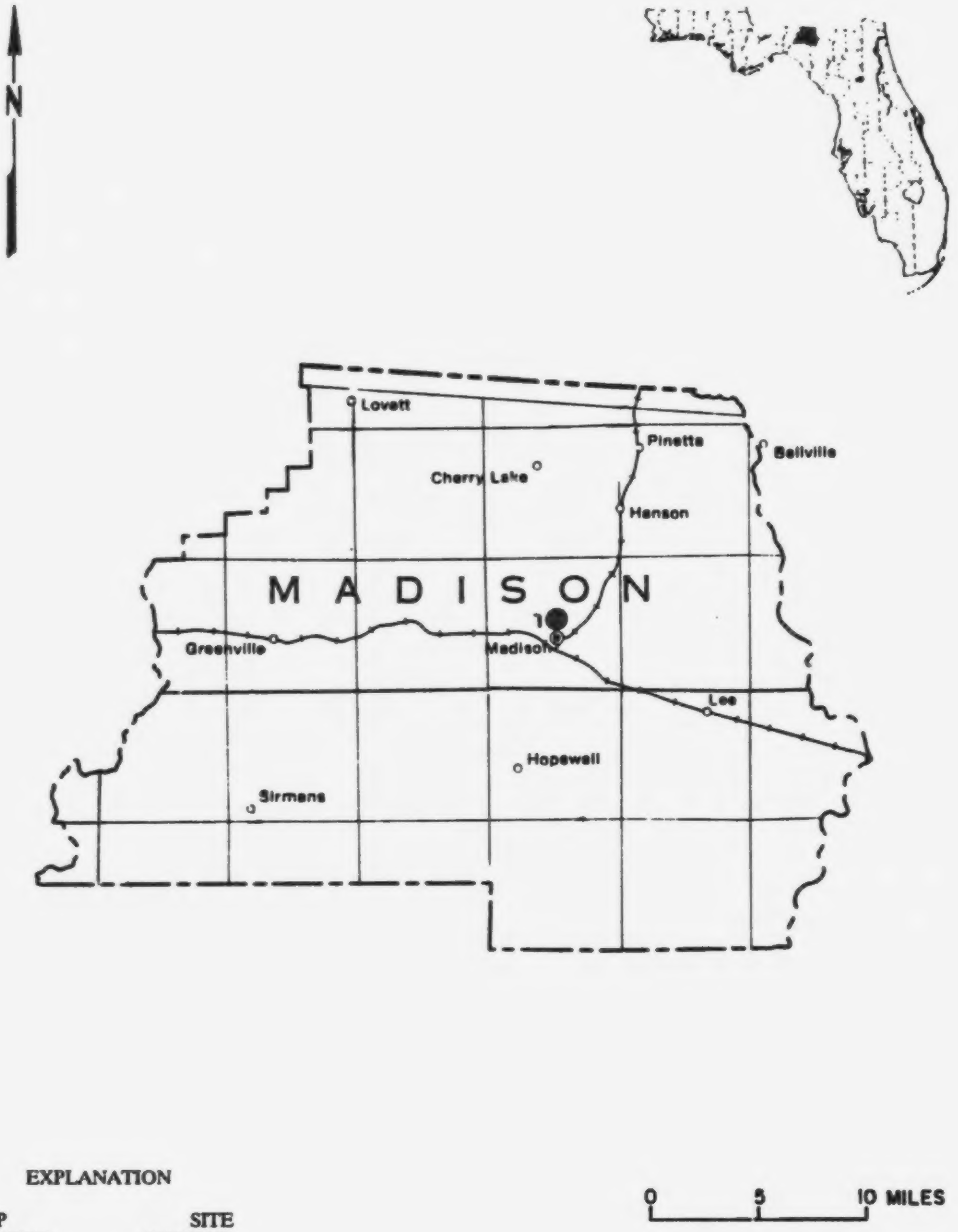
DATUM.--Land-surface datum is 87.01 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--June 1961 to July 1964 (bimonthly); January 1965 to December 1974 (semiannually); January 1975 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 91.91 ft NGVD, May 6, 1965; lowest measured, 86.38 ft NGVD, Dec. 16, 1974.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEV-ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV-ATION ABOVE NGVD (FEET)
NOV 07...	1550	87.87	MAY 05...	0800	87.10
JAN 17...	1455	87.35	JUL 21...	1045	88.75
MAR 21...	0845	86.95	SEP 11...	1320	88.27


N
Lovett
Pinetta
Bellville
Cherry Lake
Hanson
MADISON
1
Greenville
Madison
Lee
Hopewell
Sirmans
0
5
10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	302822083255501

Figure 44.--Location of wells in Madison County.

MADISON COUNTY

WELL NUMBER.--302822083255501. Local number Madison 18. Florida Department of Transportation well at Madison, FL.

LOCATION.--Lat 30°28'22", long 83°25'55", in SW¼SW¼NW¼ sec.21, T.1 N., R.9 E., Hydrologic Unit 03110103, 0.1 mi south of U.S. Highway 90 and 0.9 mi west of intersection of State Highway 53 and U.S. Highway 90 at Madison.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, drainage, artesian well, diameter 4 in., depth 322 ft, cased to 307 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of recorder shelf, 2.5 ft above land-surface datum.

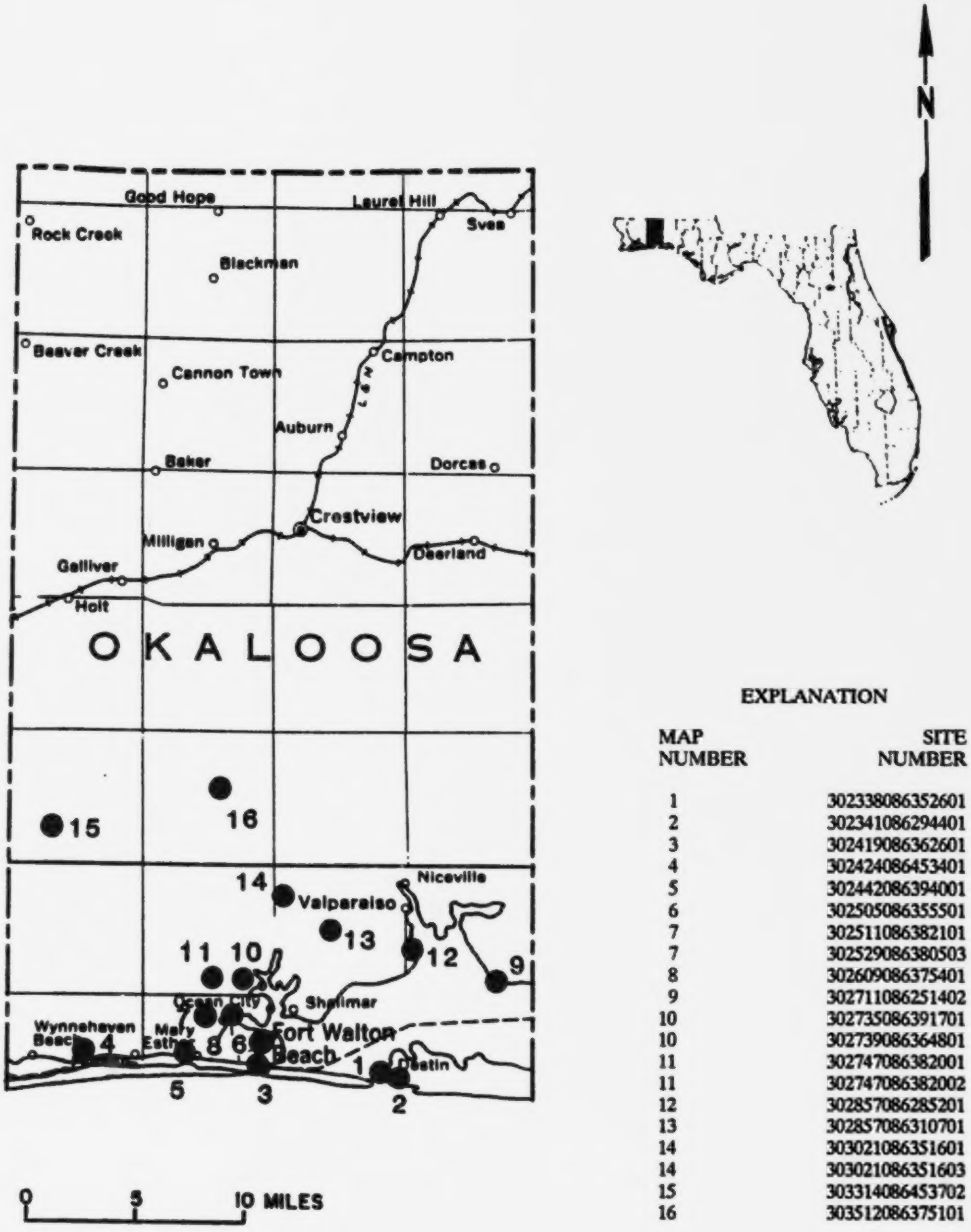
DATUM.--Land surface datum is 100.56 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--April 1952 to July 1954 (bimonthly); July 1954 to December 1964; January 1965 to November 1977 (bimonthly); January 1978 to November 1981 (semiannually); May 1982 to December 1985 year (bimonthly); January 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 94.66 ft NGVD, May 10, 1973; lowest, 64.67 ft NGVD, Mar. 27, 1957.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT 19...	0945	75.74	APR 27...	1330	71.09
NOV 22...	1330	74.05	MAY 23...	0940	70.36
DEC 19...	1420	73.16	JUN 20...	1155	70.66
JAN 18...	1335	72.38	JUL 18...	1540	71.34
FEB 15...	0820	71.54	AUG 23...	1345	71.98
MAR 23...	1405	71.46	SEP 19...	0835	71.14


N
Good Hope
Laurel Hill
Svea
Rock Creek
Blackman
Beaver Creek
Cannon Town
Campton
L & N
Auburn
Baker
Dorcas
Crestview
Milligan
Deerland
Galliver
Holt
OKALOOSA
15
16
14
Valparaiso
Niceville
13
12
9
11
10
Ocean City
Shalimar
Wynnehaven Beach
Mary Esther
Fort Walton Beach
4
8
6
1
Destin
5
3
2
0
5
10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	302338086352601
2	302341086294401
3	302419086362601
4	302424086453401
5	302442086394001
6	302505086355501
7	302511086382101
7	302529086380503
8	302609086375401
9	302711086251402
10	302735086391701
10	302739086364801
11	302747086382001
11	302747086382002
12	302857086285201
13	302857086310701
14	303021086351601
14	303021086351603
15	303314086453702
16	303512086375101

Figure 45.--Location of wells in Okaloosa County.

WELL NUMBER.--302338086352601. State of Florida Wayside Park Well near Ft. Walton Beach, FL.

LOCATION.--Lat 30°23'38", long 86°35'26", in SE¼NE¼SW¼ sec.19, T.2 S., R.23 W., Hydrologic Unit 03140105, at wayside park, 0.5 mi east of U.S. Highway 98 bridge over Choctawhatchee Bay, and 2.0 mi east of Fort Walton Beach, FL.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 5 in., depth 696 ft, cased to 474 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 1.0 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 12 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--July 1966, January 1967 (annually); April 1967 to May 1968; October 1968 to August 1970 (bimonthly); July 1974 (annually); March to November 1979 (bimonthly); July 1981 to March 1982 (semiannually); January 1983 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, -31.60 ft NGVD, Mar. 4, 1968; lowest measured, -135.05 ft NGVD, Sept. 14, 1988.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 02...	0845	-112.01	JUL 06...	1155	-94.10
JAN 05...	0935	-106.15	SEP 06...	1510	-101.16
MAR 08...	0905	-92.57			

WELL NUMBER.--302341086294401. Destin Water Users Inc. Well Number 1 at Destin, FL.

LOCATION.--Lat 30°23'41", long 86°29'44", in sec.*, T.2 S., R.23 W., Hydrologic Unit 03140103, in pumphouse, 0.2 mi north of intersection of State Highway 30B and U.S. Highway 98 at Destin.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public-supply, artesian well, diameter 10 in., depth 657 ft, cased to 440 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of hole in pump base, 1.0 above land-surface datum.

DATUM.--Elevation of land-surface datum is 20 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--*Land is not sectionized in this area.

PERIOD OF RECORD.--
ELEVATIONS: March 1975 to current year (bimonthly, discontinued).
WATER QUALITY: March 1975 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, -10.22 ft NGVD, Mar. 10, 1975; lowest measured, -70.18 ft NGVD, July 12, 1988.

ELEVATION, CONDUCTANCE AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 02...	0925	-59.15	545	--	53	MAY 03...	0920	-56.77	540	--	55
JAN 05...	0955	-51.95	--	--	--	JUL 07...	1010	--	550	--	53
MAR 08...	1010	-52.26	565	--	54						

OKALOOSA COUNTY

WELL NUMBER.--302419086362601. Local number 3. Okaloosa County School Board Well at Fort Walton Beach, FL.

LOCATION.--Lat 30°24'19", long 86°36'26", in SE¼SE¼SW¼ sec.13, T.2 S., R.24 W., Hydrologic Unit 03140105, at Fort Walton Beach Elementary School near corner of intersection of 1st Street, Windham Avenue, and Eglin Parkway at Fort Walton Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public-supply, artesian well, diameter 6 in., depth 668 ft, cased to 503 ft.

INSTRUMENTATION.--Water-level recorder. Measuring point: Top of shelter floor, 2.00 ft above land-surface datum.

DATUM.--Land-surface datum is 16.44 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Extremes may have been exceeded during periods of missing record.

PERIOD OF RECORD.--August 1936, November 1946 (annually); April 1947 to July 1968 (bimonthly); January 1969 to May 1970 (semiannually); May 1971, July 1974 (annually); March 1975 to November 1977 (bimonthly); April 1978 to September 1980; October 1980 to September 1982 (bimonthly); October 1982 to current year (discontinued). Records of water levels prior to November 1946 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 62.44 ft NGVD, Aug. 19, 1936; lowest, -114.91 ft NGVD, July 28, 1988.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	-110.90	-107.01	-102.80	-101.26	-98.13	-95.26		-89.81	-98.35	-104.64		---
10	-110.27	-106.72	-102.88	-100.56	-98.19	-92.75		-90.18	-100.25	-105.06		-106.86
15	-110.28	-105.88	-103.03	-99.73	-97.84	-90.40		-90.43	-101.10	-106.63		-109.26
20	---	-105.00	-102.90	-99.09	-97.69	-89.56		-92.15	-101.47	---		---
25	---	-104.14	-102.66	-98.63	-97.82	---		-92.55	-102.63	---		---
EOM	---	-103.59	-101.81	-98.08	-97.38	---		-93.92	-103.86	---		---
MEAN	-110.52	-105.50	-102.79	-99.76	-97.92	-92.53		-91.46	-100.68	-105.10		-107.66
MAX	-110.27	-103.59	-101.81	-98.05	-97.38	-89.18		-89.81	-94.99	-104.02		-106.68
MIN	-110.90	-107.12	-103.56	-101.77	-98.33	-97.49		-93.92	-103.86	-106.63		-109.26

WTR YR 1989 MEAN -100.46 MAX -89.18 MAR 22 MIN -110.90 OCT 4 AND OTHERS

WELL NUMBER.--302424086453401. R.V. Tye well near Mary Esther, FL.

LOCATION.--Lat 30°24'24", long 86°45'34", in SE¼NW¼NW¼ sec.21, T.2 S, R.25 W., Hydrologic Unit 03140105, 1.0 mile south of U.S. 98 and 4.5 miles west of Mary Esther.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 808 ft., cased to 652 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, .3 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 5.0 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--May 1986 to current year, (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, -49.19 ft NGVD, Mar. 3, 1987; lowest measured, -69.02 ft NGVD, September 6, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 01...	1700	-63.36	MAY 02...	1355	-62.83
JAN 04...	1640	-60.54	JUL 06...	1400	-66.81
MAR 07...	1450	-58.15	SEP 06...	1310	-69.02

WELL NUMBER.--302442086394001. Town of Mary Esther Well Number 2 at Mary Esther, FL.

LOCATION.--Lat 30°24'42", long 86°39'40", in NE¼NW¼SW¼ sec.16, T.2 S., R.24 W., Hydrologic Unit 30140105, at end of street, 0.3 mi east of water tower, 0.8 mi north of U.S. Highway 98 at Mary Esther.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public-supply, artesian well, diameter unknown, depth 764 ft, cased to 595 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of hole in pump base, 1.5 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 20 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--

ELEVATIONS.--February 1968, July 1974 (annually); March 1975 to current year (bimonthly, discontinued). Records of water levels prior to January 1974 are available in files of the Geological Survey.

WATER QUALITY.--March 1975 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, -36.44 ft NGVD, Mar. 10, 1975; lowest measured, -115.26 ft NGVD, Septmber 6, 1989.

ELEVATION, CONDUCTANCE, AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 02...	0820	-107.03	560	57
JAN 05...	0850	-96.97	550	58
MAR 08...	0850	-98.08	--	--
MAY 04...	0845	-110.37	560	57
JUL 06...	1400	-113.22	--	--
SEP 06...	1445	-115.26	550	58

WELL NUMBER.--302505086355501. City Well Number 5 at Fort Walton Beach, Fl.

LOCATION.--Lat 30°25'05", long 86°35'55", in NE¼NE¼NE¼ sec.13, T.2 S., R.24 W., Hydrologic Unit 03140102, in pumphouse, near intersection of Hughes Street and Carol Street at Fort Walton Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public supply, artesian well, diameter 24 in., depth 803 ft, cased to 510 ft.

DATUM.--Elevation of land-surface datum is 8 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water quality records prior to October 1984 are in the files of the U. S. Geological Survey.

PERIOD OF RECORD.--Water Quality: May 1975 (annually); June 1978 (annually); July 1979 (annually); May 1984 to current year (semiannually, discontinued).

CONDUCTANCE AND CHLORIDE DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 03...	0900	375	27
MAY 04...	1025	385	25
JUL 06...	1100	560	53

WELL NUMBER.--302511086382101. City Well Number 3 at Fort Walton Beach, FL.

LOCATION.--Lat 30°25'11", long 86°38'21", in SE¼SE¼SW¼ sec.10, T.2 S., R.24 W., Hydrologic Unit 03140102, in pump-house, southwest corner of intersection of Holmes Street and Wright Avenue at Fort Walton Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public supply, artesian well, diameter 16 in., depth 735 ft, cased to 548 ft.

DATUM.--Land-surface datum is 38.19 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water quality records prior to October 1984 are in the files of the U. S. Geological Survey.

PERIOD OF RECORD.--Water Quality: May 1975 (annually); June 1978 (annually); July 1979 (annually); May 1984 to current year (semiannually, discontinued).

CONDUCTANCE AND CHLORIDE DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV				JUL			
03...	0920	530	51	06...	1050	535	51
MAY							
04...	1040	530	51				

WELL NUMBER.--302529086380503. City of Fort Walton Beach Cemetary Well at Fort Walton Beach, FL.

LOCATION.--Lat 30°25'29", long 86°38'05", in NE¼NE¼SE¼ sec.10, T.1 S., R.24 W., Hydrologic Unit 03140102, at Memorial Cemetary in Fort Walton Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, test, artesian well, diameter 6 in. (0-253 ft), 4 in. (253-1015 ft), depth 1149 ft, cased to 1015 ft.

INSTRUMENTATION.--Water-level recorder. Measuring point: Top of recorder shelf, 1.45 ft above land-surface datum.

DATUM.--Land-surface datum is 34.86 ft above National Geodetic Vertical Datum of 1929 (levels by Northwest Florida Water Management District).

REMARKS.--Extremes may have been exceeded during periods of missing record.

PERIOD OF RECORD.--December 1980 to current year (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.80 ft NGVD, Mar. 18, 1981; lowest, -20.60 ft NGVD, Sept. 28, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	-18.13	-17.51	-17.92	-17.17	-16.52	-15.68	-15.75	-16.29	-17.50	-18.02	-18.48	-19.69
10	-18.05	-17.96	-17.62	-17.11	-16.74	-16.05	-15.85	-16.47	-17.59	-18.22	-18.68	-19.79
15	-18.12	-17.92	-17.58	-16.90	-16.51	-15.65	-15.78	-16.76	-17.78	-18.14	-18.78	-19.95
20	-17.95	-17.73	-17.57	-16.84	-15.94	-15.68	-15.82	-17.01	-17.88	-18.15	-19.07	-20.26
25	-17.96	-17.82	-17.38	-16.87	-16.35	-15.76	-16.02	-17.13	-17.92	-18.39	-19.24	-20.17
EOM	-17.97	-17.87	-17.15	-16.56	-15.87	-15.56	-16.06	-17.41	-18.04	-18.38	-19.48	-20.28
MEAN	-18.02	-17.85	-17.59	-16.94	-16.39	-15.75	-15.88	-16.80	-17.74	-18.21	-18.90	-20.00
MAX	-17.81	-17.51	-17.15	-16.56	-15.87	-15.41	-15.67	-15.99	-17.36	-18.01	-18.40	-19.50
MIN	-18.23	-18.04	-18.06	-17.24	-16.83	-16.05	-16.06	-17.41	-18.04	-18.39	-19.48	-20.50

WTR YR 1989 MEAN -17.51 MAX -15.41 MAR 23 MIN -20.50 SEP 28

WELL NUMBER.--302609086375401. Okaloosa County School Board Well at Wright, FL.

LOCATION.--Lat 30°26'09", long 86°37'54", in SE¼SE¼SE¼ sec.3, T.2 S., R.24 W., Hydrologic Unit 03140105, at Wright Elementary School at Fort Walton Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 8 to 4 in., depth 640 ft, cased to 473 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of plywood floor, 1.10 ft above land-surface datum. June 24, 1975 to April 29, 1976, water-level recorder at same site and datum.

DATUM.--Land-surface datum is 20.82 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--June 1975 to April 1976; April 1976 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, -34.30 ft NGVD, Mar. 5, 1976; lowest measured, -102.36 ft NGVD, July 13, 1988.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 03...	0950	-93.27	MAY 04...	1200	-98.33
JAN 05...	1430	-86.54	SEP 07...	1115	-102.06
MAR 07...	1530	-85.38			

WELL NUMBER.--302711086251402. Local Number 24. U.S. Air Force Well near Villa Tasso, FL.

LOCATION.--Lat 30°27'11", long 86°25'14", SE¼SE¼NW¼ sec.35, T.1 S., R.22 W., Hydrologic Unit 03140102, at White Point Housing area behind Bldg. T-1628 near Villa Tasso.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public supply, artesian well, diameter 4 in., depth 425 ft, casing length unknown.

INSTRUMENTATION.--Tape measured. Measuring point: Top of steel plate, 0.50 ft below land-surface datum.

DATUM.--Elevation of land-surface datum is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD:--
ELEVATIONS: September 1977 to current year (bimonthly, discontinued).
WATER QUALITY: October 1977 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, -3.02 ft NGVD, Mar. 9, 1978; lowest measured, -48.70 ft NGVD, July 11, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Water level of 25 ft NGVD reported by driller, May 17, 1957.

ELEVATION, CONDUCTANCE, AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 02...	1315	-41.80	1120	260	MAY 03...	1745	-37.36	1060	240
JAN 03...	1345	-36.80	1200	300	JUL 07...	0800	-42.65	1100	260
MAR 06...	1415	-33.50	1160	260	SEP 08...	0820	-48.09	1200	300

WELL NUMBER.--302735086371701. City Well Number 10 at Fort Walton Beach, FL.

LOCATION.--Lat 30°27'35", long 86°37'17", in NE¼NE¼NW¼ sec.35, T.1 S., R.24 W., Hydrologic Unit 03140102, at City of Fort Walton Beach Golf Course southwest corner of intersection of State Highway 189 and Mooney Road at Fort Walton Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public supply, artesian well, diameter 16 in., depth 800 ft, cased to 487 ft.

DATUM.--Elevation of land-surface datum is 47 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water quality records prior to October 1984 are in the files of the U. S. Geological Survey.

PERIOD OF RECORD.--Water Quality: May 1975 (annually); June 1978 (annually); May 1981 to current year (bimonthly, discontinued).

CONDUCTANCE AND CHLORIDE DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 03...	1020	380	23	MAY 04...	1240	380	23
JAN 05...	1505	375	22	JUL 06...	1015	370	22
MAR 09...	0910	380	15	SEP 07...	1200	360	24

WELL NUMBER.--302739086364801. City Well Number 6 at Fort Walton Beach, FL.

LOCATION.--Lat 30°27'39", long 86°36'48", in SE¼NE¼NE¼ sec.35, T.1 S., R.24 W., Hydrologic Unit 03140102, near 18th green of Fort Walton Beach golf course, 0.2 mi south of State Highway 189, and about 3 mi north of Fort Walton Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public-supply, artesian well, diameter 24 in., depth 750 ft, cased to 500 ft.

DATUM.--Land-surface datum is 36.04 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--

WATER QUALITY: May 1975 (annually); July 1977 to September 1977 (semiannually); May 1978 to current year (bimonthly, discontinued).

CONDUCTANCE AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 03...	1015	320	18	MAY 04...	1230	335	19
JAN 05...	1455	320	17	JUL 06...	1005	325	19
MAR 09...	0900	335	13	SEP 07...	1150	325	19

OKALOOSA COUNTY

WELL NUMBER.--302747086382001. USGS Observation Well at Wright, FL.

LOCATION.--Lat 30°27'47", long 86°38'20", in NE¼NE¼NW¼ sec.34, T.1 S., R.24 W., Hydrologic Unit 03140102, 200 ft west of North Beal Street, 0.4 mi north of intersection of North Beal Street and State Highway 189, and about 3 mi north of Fort Walton Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, test, artesian well, diameter 10 in., depth 858 ft, cased to 503 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 3.12 ft above land-surface datum.

DATUM.--Land-surface datum is 57.67 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--August 1966 to February 1981; March 1981 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.60 ft NGVD, Feb. 5, 1967 estimated; lowest measured, -89.91 ft NGVD, Sept. 7, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 02...	1630	-83.86	MAY 04...	1215	-87.19
JAN 03...	1550	-78.22	JUL 06...	1520	-87.33
MAR 08...	1715	-76.18	SEP 07...	1130	-89.91

WELL NUMBER.--302747086382002. USGS Observation Well at Wright, FL.

LOCATION.--Lat 30°27'47", long 86°38'20", in NE¼NE¼NW¼ sec.34, T.1 S., R.24 W., Hydrologic Unit 03140102, 200 ft west of North Beal Street, 0.4 mi north of intersection of North Beal Street and State Highway 189, and about 3 mi north of Fort Walton Beach.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System, Geologic Unit 120 NFSG.

WELL CHARACTERISTICS.--Drilled, test, observation well, diameter 2 in., depth 38 ft, cased to 23 ft, screened from 23 to 38 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 0.50 above land-surface datum.

DATUM.--Elevation of land-surface datum is 58 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--July 1977 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 56.12 ft NGVD, Mar. 9, 1978; lowest measured, 51.52 ft NGVD, July 13, 1988.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
JAN 03...	1550	53.36	SEP 07...	1135	53.42
MAR 08...	1710	54.36			

WELL NUMBER.--302857086285201. U.S. Air Force Postil Point Well, near Niceville, FL.

LOCATION.--Lat 30°28'57", long 86°28'52", in NW¼NE¼SE¼ sec.19, T.1 S., R.22 W., Hydrologic Unit 03140102, at Postil Point on Eglin Air Force Base, behind Eglin Kindergarten School, and about 3 mi south of Niceville.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 6 in., depth 508 ft, cased to 300 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of reducer, 2.30 ft above land-surface datum.

DATUM.--Land-surface datum is 7.54 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--September 1947 to July 1964 (bimonthly); January 1965 to May 1970 (semiannually); January 1971, July 1974 (annually); January 1975 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.74 ft NGVD, Sept. 3, 1947; lowest measured -79.24 ft NGVD, Sept. 7, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 02...	1430	-65.04	MAY 03...	1450	-64.80
JAN 05...	1750	-57.42	JUL 06...	1620	-65.46
MAR 08...	1510	-53.18	SEP 07...	1225	-79.24

WELL NUMBER.--302857086310701. U.S. Air Force Hardstand Tower Well near Valpariso, FL.

LOCATION.--Lat 30°28'57", long 86°31'07", in NW¼NW¼SE¼ sec.23, T.1 S., R.23 W., Hydrologic Unit 03140102, on Eglin Air Force Base about 1.5 mi south of Valpariso.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public-supply, artesian well, diameter 8 in., depth 702 ft, cased to 404 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of hole in steel plate, 1.0 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 66 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--March 1978 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, -22.0 ft NGVD, Mar. 7, 1978; lowest measured, -81.14 ft NGVD, July 13, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Water level reported as 20.5 ft NGVD by driller in January 1958.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 02...	1550	-69.75	MAR 08...	1535	-59.44
JAN 05...	1725	-63.98	JUL 06...	1550	-70.68

WELL NUMBER.--303021086351601. U.S. Air Force Field 4 Well near Fort Walton Beach, FL.

LOCATION.--Lat 30°30'21", long 86°35'16", in NE¼NE¼NW¼ sec.18, T.1 S., R.23 W., Hydrologic Unit 03140102, at auxiliary field 4, about 6 mi north of Fort Walton Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, public-supply, artesian well, diameter 10 in., depth 591 ft, cased to 442 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of 1 in. hole in pump base, 1.0 ft above land-surface datum.

DATUM.--Land-surface datum is 89.33 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--Jan. 1948 to Sept. 1967 (bimonthly); March 1978 (annually); Jan. 1979 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 65.33 ft NGVD, Apr. 14, 1948; lowest measured, -45.85 ft NGVD, July 13, 1988.

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV			MAY		
03...	1050	-42.32	04...	1600	-41.44
JAN			JUL		
05...	1540	-38.35	06...	0945	-43.67
MAR					
07...	1615	-36.47			

WELL NUMBER.--303021086351603. U.S. Air Force Field 4 Deep Well near Fort Walton Beach, FL.

LOCATION.--Lat. 30°30'21", long 86°35'16", in NE¼NE¼NW¼ sec.18, T.1 S., R.23 W., Hydrologic Unit 03140102, at auxillary field 4, about 6 mi north of Fort Walton Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, test, artesian well, diameter 4 in., depth 1380 ft, cased to 938 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of plywood shelf, 0.3 ft above land-surface datum. Prior to July 1981, water-level recorder at same site and datum.

DATUM.--Elevation of land-surface datum is 88 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--December 1980 to July 1981; July 1981 to current year (bimonthly, discontinued). Records of water levels prior to July 1981 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, -7.20 ft NGVD, Mar. 19, 1981; lowest measured -60.07 ft NGVD, July 9, 1987.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV			MAY		
03...	1045	-42.38	04...	1550	-41.41
JAN			JUL		
05...	1530	-38.52	06...	0935	-43.69
MAR			SEP		
07...	1605	-36.70	07...	1415	-47.20

WELL NUMBER.--303314086453702. U.S. Air Force Metts Tower Well near Fort Walton Beach, FL.

LOCATION.--Lat 30°33'14", long 86°45'37", in SW¼SW¼SE¼ sec.28, T.1 N., R.25 W., Hydrologic Unit 03140103, at Metts Tower on Eglin Air Force Base about 10 mi northwest of Fort Walton Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 796 ft, cased to 600 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of sanitary seal, 0.5 ft below land-surface datum.

DATUM.--Elevation of land-surface datum is 195 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--April 1978 (annually); Nov. 1978 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 36.75 ft NGVD, Mar. 11, 1979; lowest measured, 6.74 ft NGVD, Sept. 7, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 03...	1210	10.53	JUL 06...	0900	7.88
JAN 05...	1640	8.60	SEP 07...	1445	6.74
MAY 03...	1655	9.05			

WELL NUMBER.--303512086375101. Local Number 29. U.S. Air Force Observation Well near Fort Walton Beach, FL.

LOCATION.--Lat 30°35'12", long 86°37'51", in NW¼NE¼SE¼ sec.15, T.1 N., R.24 W., Hydrologic Unit 03140102, at U.S.A.F. Field 5, 6.4 mi southwest of State Highway 85, 8.3 mi north of State Highway 189, and 14 mi north of Fort Walton Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, public-supply, artesian well, diameter 10 in., depth 710 ft, cased to 524 ft.

INSTRUMENTATION.--Water-level recorder. Measuring point: Top of recorder shelf, 1.06 ft above land-surface datum.

DATUM.--Land-surface datum is 178.03 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Extremes may have been exceeded during periods of missing record.

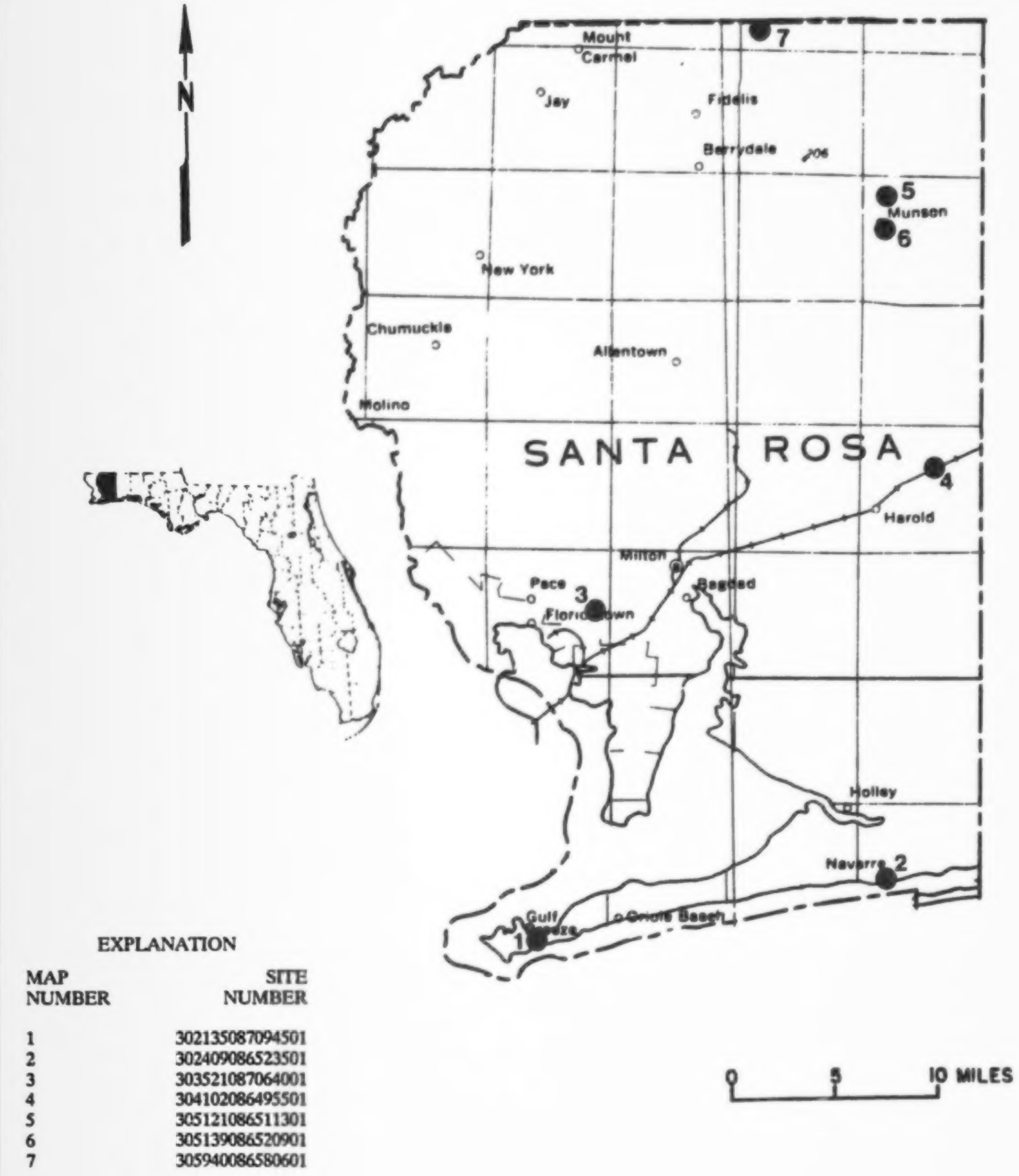
PERIOD OF RECORD.--October 1947 to May 1966 (bimonthly); May 1966 to current year (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 78.23 ft NGVD, Oct. 28, 1947; lowest, -8.37 ft NGVD, Aug. 22, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	-6.58	-6.02	-6.15	-5.22	-4.51	-3.61	-3.64	-4.34	-5.87	---	-6.88	-8.29
10	-6.45	-6.45	-5.95	-5.21	-4.55	-3.82	-3.75	-4.51	-5.92	-6.59	-6.98	---
15	-6.58	-6.31	-5.83	-5.05	-4.42	-3.57	-3.66	-4.87	-6.07	-6.53	-7.17	---
20	-6.35	-6.15	-5.78	-4.81	-3.91	-3.68	-3.79	-5.18	-6.17	-6.51	-7.48	---
25	-6.42	-6.17	-5.61	-4.77	-4.03	-3.57	-3.99	-5.33	-6.25	-6.78	-7.73	---
EOM	-6.42	-6.18	-5.31	-4.51	-3.70	-3.50	-4.09	-5.75	---	-6.79	-8.01	---
MEAN	-6.47	-6.29	-5.83	-4.98	-4.28	-3.63	-3.80	-4.94	-6.06	-6.63	-7.33	-8.14
MAX	-6.27	-5.99	-5.31	-4.51	-3.69	-3.35	-3.54	-4.02	-5.72	-6.49	-6.82	-8.06
MIN	-6.67	-6.51	-6.30	-5.35	-4.71	-3.89	-4.09	-5.75	-6.32	-6.79	-8.01	-8.29

WTR YR 1989 MEAN -5.50 MAX -3.35 MAR 30 MIN -8.29 SEP 5


N
Mount Carmel
7
Jay
Fidelis
Berrydale
5
Munson
6
New York
Chumuckle
Allentown
Molino
SANTA ROSA
4
Harold
Milton
Pace
3
Floridatown
Bagdad
Holley
Navarre
2
Gulf Breeze
1
Oriole Beach
0
5
10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	302135087094501
2	302409086523501
3	303521087064001
4	304102086495501
5	305121086511301
6	305139086520901
7	305940086580601

Figure 46.--Location of wells in Santa Rosa County.

WELL NUMBER.--302135087094501. Local number 102. USGS Observation Well at Gulf Breeze, FL.

LOCATION.--Lat 30°21'35", long 87°09'45", in NE¼SW¼SE¼ sec.4, T.3 S., R.29 W., Hydrologic Unit 03140105, south of McClure Drive, 0.25 mi north of U.S. Highway 98 and McClure Drive intersection at Gulf Breeze.

AQUIFER.--Sand aquifer of Pleistocene series, Geologic Unit 112 SAND.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, diameter 6 in., depth 41 ft, cased to 31 ft, screened from 31 to 41 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of cap, 1.09 ft below land-surface datum.

DATUM.--Land-surface datum is 11.56 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--August 1950 to May 1951 (weekly); May 1951 to September 1964; May 1965 to May 1971 (annually); January 1972 to November 1975 (semiannually); December 1975 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.14 ft NGVD, Nov. 15, 1975; lowest, 0.98 ft NGVD, Jan. 17, 1955.

ELEVATION, IN FEET, NGVD, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
DEC			JUL		
09...	0755	5.57	26...	1515	6.18
MAR			SEP		
31...	0950	4.25	21...	0905	4.88
MAY					
26...	0830	4.74			

WELL NUMBER.--302409086523501. Louis Woodham Cement Plant Well at Navarre, FL.

LOCATION.--Lat 30°24'09", long 86°52'35", in NE¼NE¼SW¼ sec.20, T.2 S., R.26 W., Hydrologic Unit 03140105, 200 ft west of intersection of State Highway 87 and U.S. Highway 98, and 450 ft north of U.S. Highway 98 at Navarre.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, industrial, artesian well, diameter 3 in., depth 940 ft, cased to 800 ft.

INSTRUMENTATION.--Tape measured. Reference point: Top of hole in casing, 0.38 ft below land-surface datum. Prior to May 1975, measuring point: Top of reducer coupling at land surface datum.

DATUM.--Elevation of land-surface datum is 20 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--March 1961, July 1966 (annually); November 1966 to May 1968 (bimonthly); May 1969 to May 1974 (semiannually); January 1975 to current year (bimonthly, discontinued). Records of water levels prior to January 1974 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 60.0 ft NGVD, Mar. 1, 1961; lowest measured, -38.17 ft NGVD, Sept. 6, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV			MAY		
01...	1625	-34.79	02...	1335	-34.39
JAN			JUL		
04...	0800	-32.18	06...	1330	-37.00
MAR			SEP		
07...	1430	-30.87	06...	1245	-38.17

SANTA ROSA COUNTY

WELL NUMBER.--303521087064001. Local number 035-706-1. USGS Observation Well near Milton, FL.

LOCATION.--Lat 30°35'21", long 87°06'40", in SW¼SE¼SW¼ sec.13, T.1 N., R.29 W., Hydrologic Unit 03140104, 0.9 mi south of U.S. Highway 90, 2.25 mi west of intersection of U.S. Highway 90 and State Highway 191A, and 4.9 mi southwest of Milton.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System, Geologic Unit 120 NFSG.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 211 ft, cased to 206 ft, screened from 206 to 211 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 3.00 ft above land-surface datum.

DATUM.--Land-surface datum is 127.28 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--July 1959 to October 1962; November 1962 to February 1967 (monthly); July 1967 to May 1968 (bimonthly); January 1969 to May 1971 (semiannually); January 1972 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 45.31 ft NGVD, Aug. 26, 27, 1961; lowest measured, 28.44 ft NGVD, July 9, 1969.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
DEC 05...	1125	38.38	MAY 26...	0915	37.11
JAN 23...	1640	38.03	JUL 25...	1120	38.84
MAR 27...	1630	37.59	SEP 19...	0735	39.70

WELL NUMBER.--304102086495501. Local number 041-649-1. USGS Observation Well at Floridale, FL.

LOCATION.--Lat 30°41'02", long 86°49'55", in NE¼NW¼NE¼ sec.15, T.2 N., R.26 W., Hydrologic Unit 03140103, 22 ft north of U.S. Highway 90, 0.3 mi east of town of Floridale, and 3.3 mi east of Harold.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System, Geologic Unit 120 NFSG.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 98 ft, cased to 93 ft, screened from 93 to 98 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of coupling, 3.05 ft above land-surface datum. Prior to September 20, 1962 water-level recorder at same site and datum.

DATUM.--Land-surface datum is 155.76 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--August 1959 to September 1962; September 1962 to current year (bimonthly, discontinued). Records of water levels prior to January 1974 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 105.04 ft NGVD, Jan. 17, 1976; lowest measured, 82.46 ft NGVD, May 6, 1969.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
DEC 09...	0940	96.70	MAY 26...	1330	94.13
JAN 25...	1330	96.21	JUL 27...	1245	96.49
MAR 17...	1445	95.41	SEP 21...	1410	96.62

SANTA ROSA COUNTY

WELL NUMBER.--305121086511301. Local Number Jay 3. U.S. Geological Survey Observation Well near Munson, FL.

LOCATION.--Lat 30°51'21", long 86°51'13", in SW¼NW¼NW¼ sec.16, T.4 N., R.16 W., Hydrologic Unit 03140104, about 50 ft north of State Highway 4, 1.15 mi east of intersection of State Highways 191 and 4 at Munson.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System, Geologic Unit 120 NFSG.

WELL CHARACTERISTICS.--Drilled, observation well, diameter 4 in., depth 46 ft, cased to 41 ft, screened from 41 to 46 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 2.6 ft above land-surface datum.

DATUM.--Land-surface datum is 99.88 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--July 1978 (annually): November 1978 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured 97.34 ft NGVD, July 26, 1978; lowest measured 94.04 ft NGVD, Nov. 18, 1981.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT			APR		
03...	1425	95.96	13...	1235	95.18
DEC			AUG		
08...	1100	95.36	10...	1050	95.69
FEB					
16...	1220	95.18			

WELL NUMBER.--305139086520901. Local Number Jay 4. Florida Forest Service Well at Munson, FL.

LOCATION.--Lat 30°51'39", long 86°52'09", in SW¼SW¼SW¼ sec.8, T.4 N., R.26 W., Hydrologic Unit 03140104, 0.24 mi north of State Road 4 at Munson Nursery at Munson.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System, Geologic Unit 120 NFSG.

WELL CHARACTERISTICS.--Drilled, irrigation well, diameter 18 to 8 in., depth 445 ft, cased to 385 ft, screened from 385 to 435 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of 1 in. nipple in pump base, 2.00 ft above land-surface datum.

DATUM.--Land-surface datum is 215.30 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--July 1978 to September 1981 (bimonthly); January 1982 (annually); November 1982 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 81.90 ft NGVD, Mar. 2, 1984; lowest measured, 52.97 ft NGVD, Jan. 21, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Water level of 103.3 ft NGVD, reported by driller on Apr. 11, 1952.

ELEVATION, IN FEET, NGVD, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
DEC			MAY		
07...	1600	75.02	25...	1550	75.50
JAN			JUL		
25...	1035	76.55	27...	1030	76.53
MAR					
31...	1350	76.65			

WELL NUMBER.--305940086580601. Florida Forest Service Observation Well near Jay, FL.

LOCATION.--Lat 30°59'40", long 86°58'06", in NW¼SW¼SW¼ sec.29, T.6 N., R.27 W., Hydrologic Unit 03140104, at Camp Henderson Fire Tower, on clay road 5.4 mi east of State Highway 87, and 11 mi northeast of Jay.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 to 3 in., depth 815 ft, cased to 510 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of cap, 0.80 ft above land-surface datum.

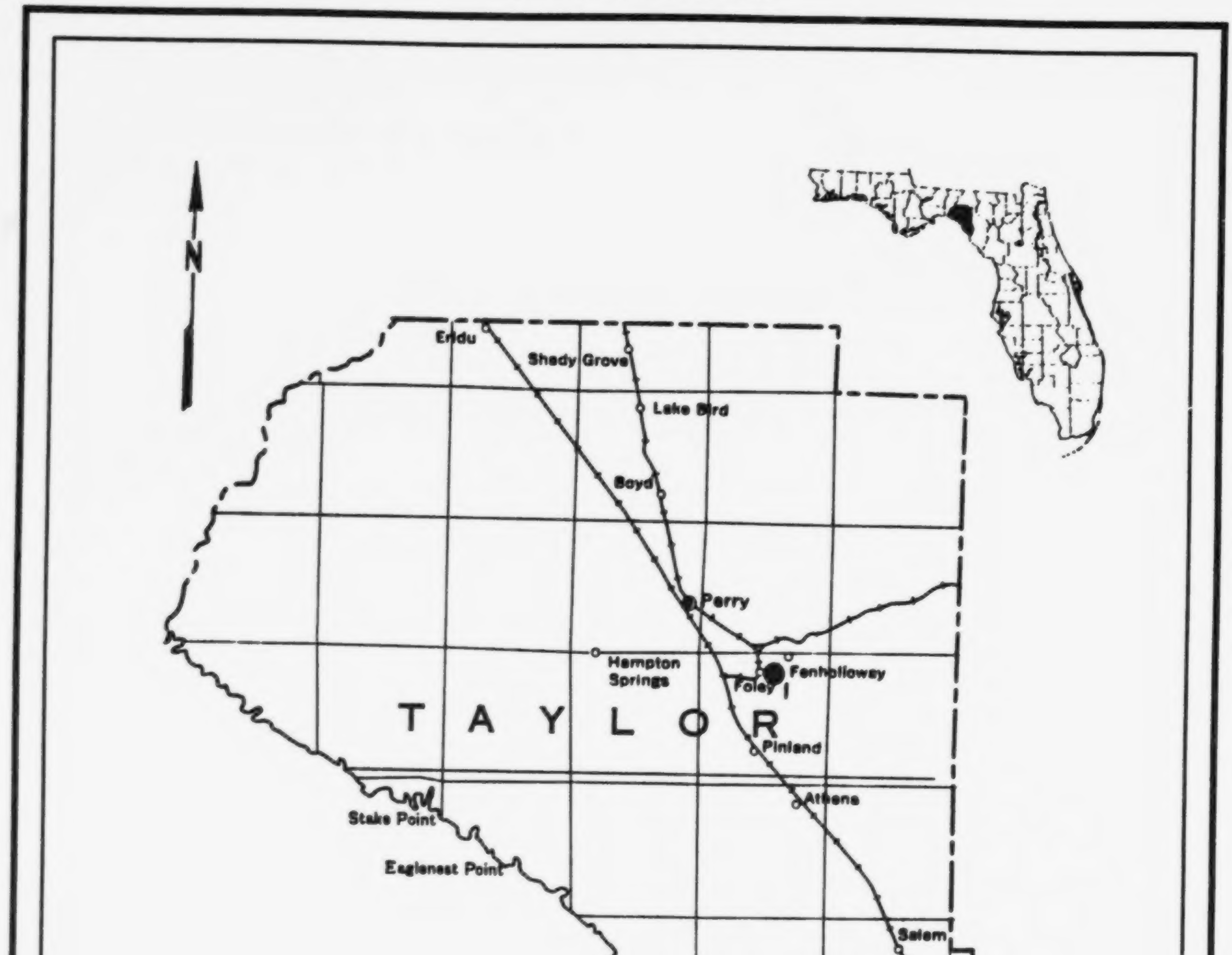
DATUM.--Elevation of land surface datum is 280 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--July 1961 (annually); July 1966 to November 1967 (bimonthly); January 1968 to May 1969 (semiannually); January 1974 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 128.00 ft NGVD, July 14, 1961; lowest measured, 109.12 ft NGVD, July 28, 1988 and Sept. 21, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
DEC			MAY		
07...	1415	109.33	25...	1455	109.28
JAN			JUL		
25...	0935	109.14	27...	0930	109.43
MAR			SEP		
31...	1250	109.29	21...	1050	109.12


N
Endu
Shady Grove
Lake Bird
Boyd
Perry
Hampton Springs
Fenholloway
Foley
1
TAYLOR
Pinland
Athena
Stake Point
Eaglenest Point
Salem
Dekle Beach
Sponge Point
Long Grass Point
Rock Point
Steinhatchee
Jena
0
5
10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	300358083305001

Figure 47.--Location of wells in Taylor County.

WELL NUMBER.--300358083305001. Local Number Taylor 35. Buckeye Cellulose Corporation Well near Fenholloway, FL.

LOCATION.--Lat 30°03'58", long 83°30'50", in NE¼SE¼NW¼ sec.10, T.5 S., R.8 E., Hydrologic Unit 03110102, 1.5 mi southwest of Fenholloway and 5.3 mi southeast of Perry.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 17 to 12 in., depth 230 ft, cased to 189 ft.

INSTRUMENTATION.--Tape measured. Reference point: Top of recorder shelf, 2.40 ft above land-surface datum.

DATUM.--Land-surface datum is 54.69 ft above National Geodetic Vertical Datum of 1929.

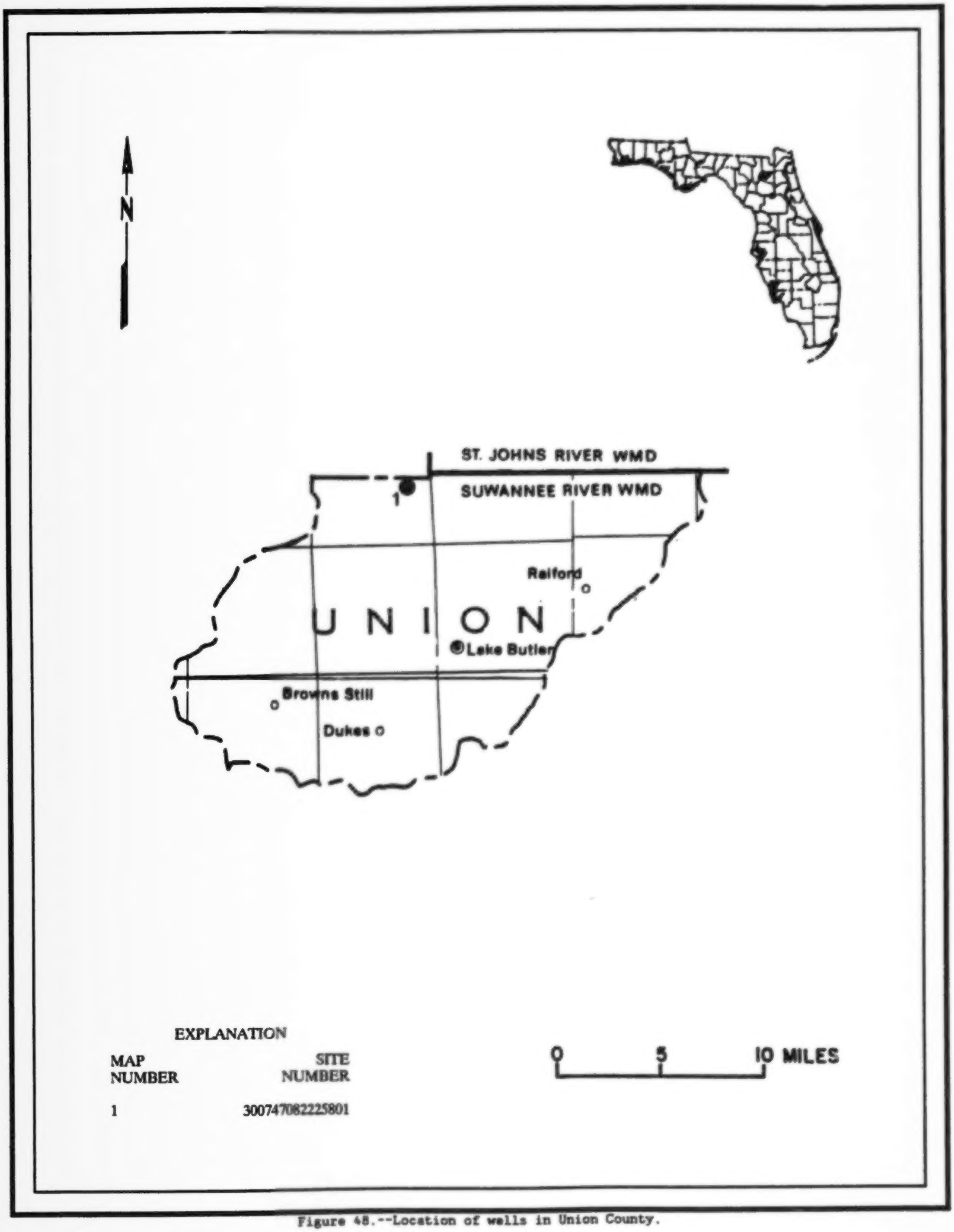
PERIOD OF RECORD.--June 1946 to September 1987 (continuous water-level recorder); October 1987 to current year (bimonthly).

REMARKS.--Water levels affected by pumping of nearby wells.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 55.38 ft NGVD, Apr. 2, 1948; lowest, 12.19 ft NGVD, May 15, 1974.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV			MAR		
16...	0940	23.04	29...	1455	18.39
JAN			MAY		
12...	1235	20.33	05...	1800	17.93
FEB					
28...	1350	19.05			


N
ST. JOHNS RIVER WMD
SUWANNEE RIVER WMD
1
Raiford
UNION
Lake Butler
Browns Still
Dukes
0
5
10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	300747082225801

Figure 48.--Location of wells in Union County.

WELL NUMBER.--300747082225801. USGS Observation Well near Lake Butler, FL.

LOCATION.--Lat 30°07'47", long 82°22'58", in SE¼NW¼SE¼ sec.23, T.4 S., R.19 E., Hydrologic Unit 03110206, about 40 ft east of State Highway 231, 0.8 mi south of Union-Baker county line, and 7.6 mi north of Lake Butler.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, test, artesian well, diameter 8 in., depth 724 ft, cased to 694 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of recorder shelf, 3.07 ft above land-surface datum.

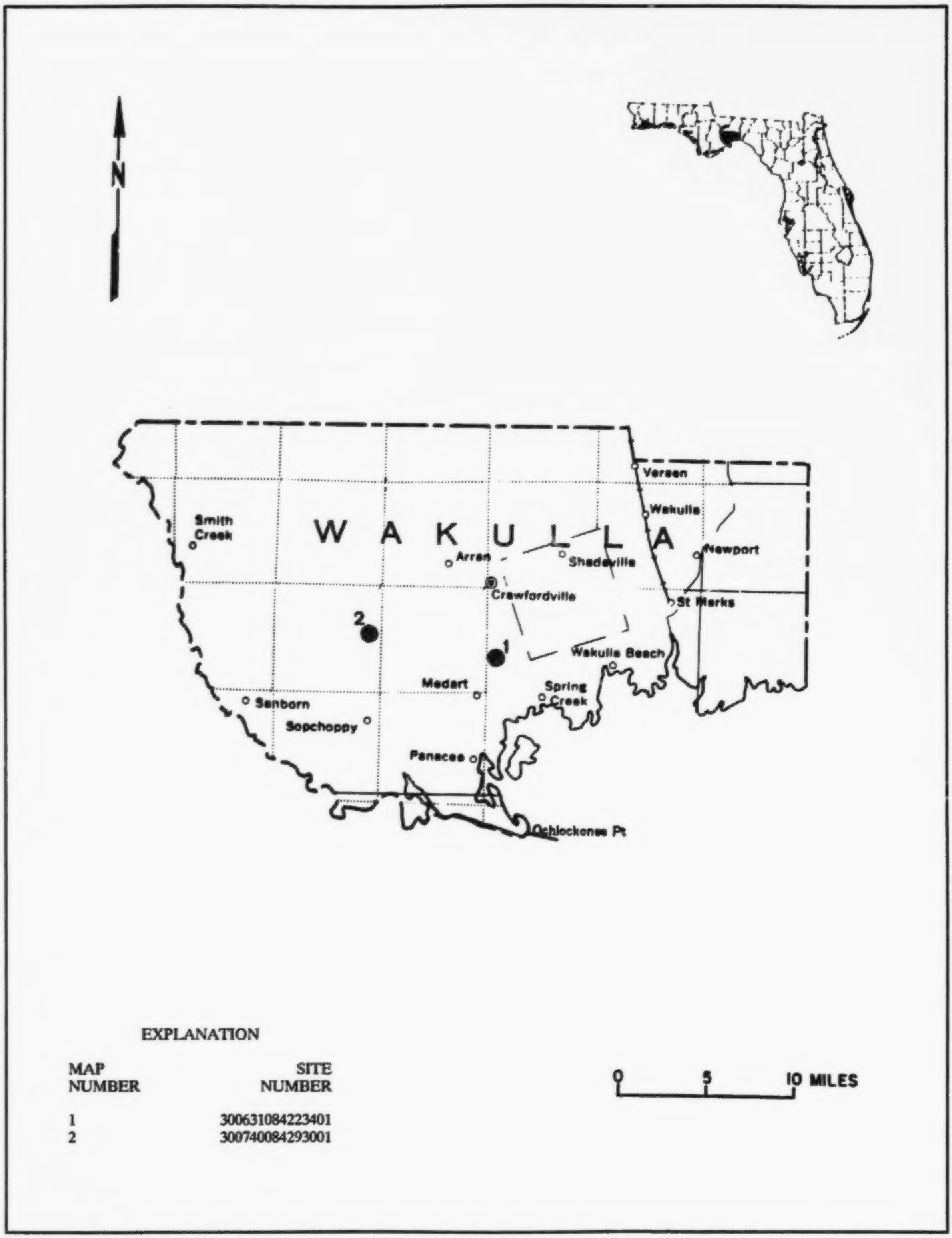
DATUM.--Land-surface datum is 152.75 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--November 1958 to September 1984; October 1984 to December 1985 (bimonthly); January 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 66.76 ft NGVD, Mar. 29, 30, 1965; lowest, 52.28 ft NGVD, July 11, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT			APR		
18...	1025	55.39	10...	1150	53.92
NOV			MAY		
14...	0840	55.13	08...	1215	53.34
DEC			JUN		
19...	1000	54.93	12...	1020	52.51
JAN			JUL		
17...	1000	54.84	11...	0950	52.28
FEB			AUG		
17...	1015	54.36	07...	1045	52.48
MAR			SEP		
20...	1100	54.12	06...	1100	52.45


N
WAKULLA
Smith Creek
Arran
Shadeville
Crawfordville
Vereen
Wakulla
Newport
St Marks
Wakulla Beach
Spring Creek
Medart
Sanborn
Sopchoppy
Panacea
Ochlockonee Pt
1
2
0
5
10 MILES

EXPLANATION

MAP NUMBER	SITE NUMBER
1	300631084223401
2	300740084293001

Figure 49.--Location of wells in Wakulla County.

WAKULLA COUNTY

WELL NUMBER.--300631084223401. Wakulla High Test Well. Wakulla County School Board Well near Medart, FL.

LOCATION.--Lat 30°06'31", long 84°22'34", in Land Grant Number 91 of Hartsfield Survey, Hydrologic Unit 03120001, .25 mi east of intersection of U.S. 98 and SR 61, 5 mi south of Crawfordville.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, test, artesian well, diameter 4 in., depth 221 ft, cased to 70 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of 4 in. casing, 0.8 ft above land-surface datum.

DATUM.--Land-surface datum is 36.15 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--December 1974 to September 1981 (bimonthly); October 1981 to September 1982 (monthly); November 1982 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.52 ft NGVD, Aug. 7, 8, 1982; lowest measured, 3.36 ft NGVD, May 8, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT 12...	1330	4.02	MAR 14...	0930	3.76
NOV 14...	1455	4.38	MAY 08...	1310	3.36
JAN 11...	1555	4.28	JUL 06...	1545	4.34

WELL NUMBER.--300740084293001. USGS Observation Well near Crawfordville, FL.

LOCATION.--Lat 30°07'40", long 84°29'30", in NW1/4NE1/4NW1/4 sec.24, T.4 S., R.3 W., Hydrologic Unit 03120003, 400 ft east of Sopchoppy River, 6.6 mi southwest of intersection of Forest Road 365 and State Highway 315, and 7.8 mi west of Crawfordville.

AQUIFER.--Hawthorn Limestone aquifer of the Miocene System, Geologic Unit 122 HTRNN.

WELL CHARACTERISTICS.--Drilled, bench mark, artesian well, diameter 6 in., depth 127 ft, cased to 121 ft.

INSTRUMENTATION.--Water-level recorder. Measuring point: Top of recorder shelf, 2.90 ft above land-surface datum.

DATUM.--Land-surface datum is 46.91 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--January 1967 to current year. Records of water levels prior to January 1974 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 36.91 ft NGVD, July 31, 1975; lowest, 24.42 ft NGVD, Sept. 14, 1966.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	33.52	32.04	31.90	31.55	31.09	31.89	32.28	31.37	30.90	33.60	32.47	32.89
10	33.19	32.06	31.71	31.41	30.98	31.78	31.95	31.14	32.31	33.92	32.00	32.64
15	32.58	31.87	31.89	31.41	30.88	31.65	31.78	31.06	32.98	33.17	31.96	32.16
20	32.21	31.76	31.83	31.31	30.88	31.45	31.68	30.81	33.24	33.00	32.08	31.92
25	31.91	31.91	31.71	31.25	31.63	32.61	31.41	31.32	33.30	33.58	31.91	32.04
EOM	31.94	32.08	31.64	31.17	31.72	32.65	31.19	31.18	33.08	32.95	32.18	32.98
MAX	33.56	32.09	32.06	31.64	31.72	32.68	32.54	31.37	33.31	34.06	32.84	32.98

WTR YR 1989 MAX 34.06

EXPLANATION

MAP NUMBER	SITE NUMBER
1	301946086095701
2	302058086143201
3	302221086065201
4	302228086201902
5	302231086153201
6	302231086214301
7	302308086103402
8	302357086100701
9	302442086130701
10	302637085543301
11	302721086101401
12	302746086232101
13	302840086044301
14	302841086195201
15	302935086074501
16	303214085580401
17	303426086061101
18	303545086064601

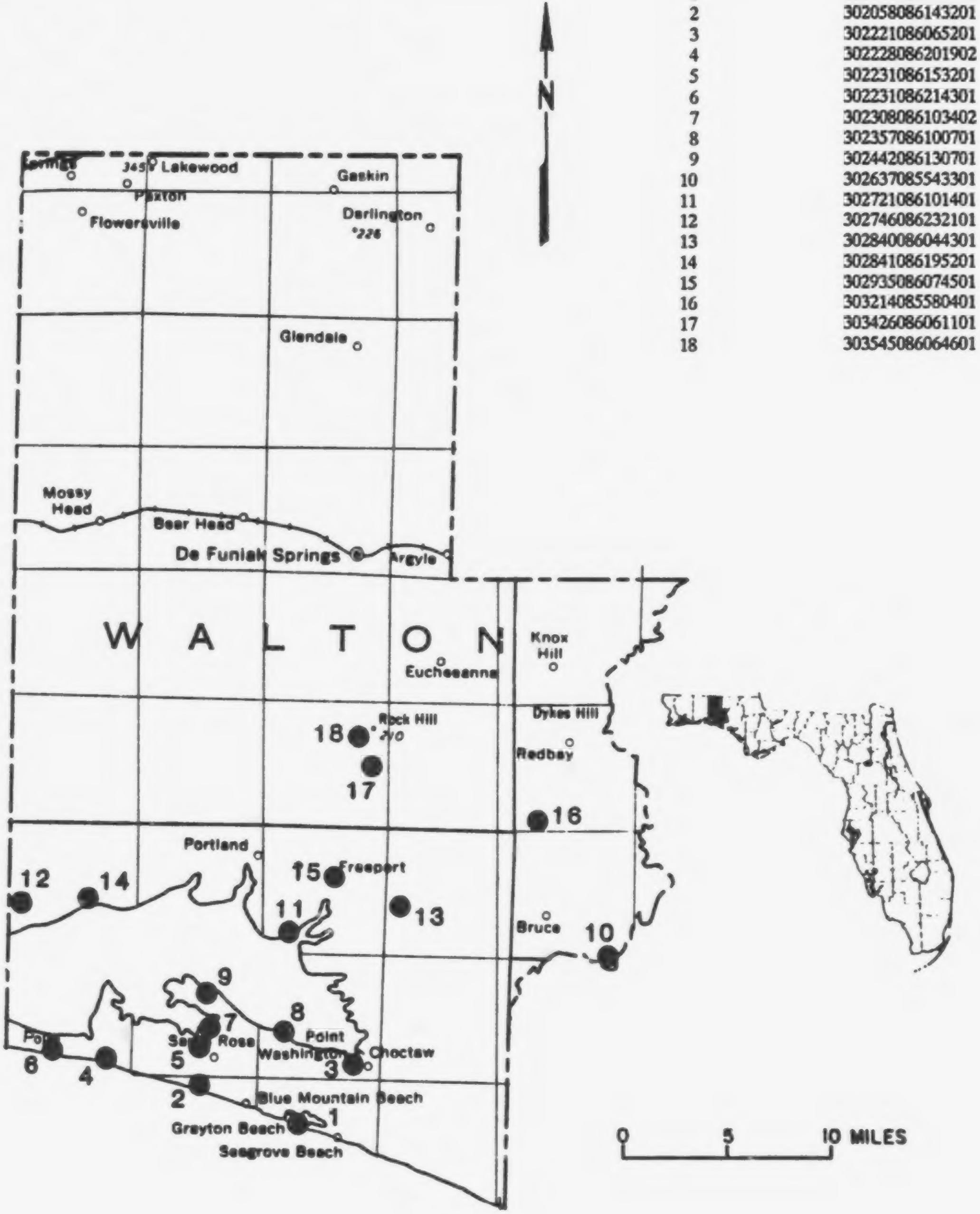

N
Lakewood
345
Paxton
Gaskin
Flowersville
Darlington
226
Glendale
Mossy Head
Bear Head
De Funiak Springs
Argyle
WALTON
Knox Hill
Eucheeanna
Rock Hill
210
Dykes Hill
Redbay
Portland
Freeport
Bruce
Santa Rosa
Point Washington
Choctaw
Blue Mountain Beach
Grayton Beach
Seagrove Beach
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
0
5
10 MILES

Figure 50.--Location of wells in Walton County.

WELL NUMBER.--301946086095701. Van R. Butler Well at Grayton Beach, FL.

LOCATION.--Lat 30°19'46", long 86°09'57", in NW¼NE¼NE¼ sec.17, T.3 S., R.19 W., Hydrologic Unit 03140102, about 300 ft north of Gulf of Mexico, 2.2 mi south of U.S. Highway 98, at Grayton Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public-supply, artesian well, diameter 4 in., depth 466 ft, cased to 424 ft.

INSTRUMENTATION.--Pressure gage or tape measured. Measuring point: Top of tee, 1.2 ft above land-surface datum.

DATUM.--Land-surface datum is 7.46 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--
ELEVATIONS: April 1961 to current year (bimonthly).
WATER QUALITY: 1961-1967 (semiannually); January 1968 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.16 ft NGVD, May 8, 1964; lowest measured, 3.92 ft NGVD, Oct. 13, 1972.

ELEVATION, CONDUCTANCE, TEMPERATURE AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 01...	1145	11.81	1390	22.5	410
JAN 05...	1105	11.68	1600	19.5	560
MAR 08...	1125	11.68	2000	18.0	590
MAY 03...	1025	11.73	1850	21.0	580
JUL 05...	1300	11.87	1040	22.0	260
SEP 06...	1650	11.66	1100	25.0	340

WELL NUMBER.--302058086143201. Eric Allen Well at Dune Allen Beach, FL.

LOCATION.--Lat 30°20'58", long 86°14'32", in SW¼NE¼SW¼ sec.3, T.3 S., R.20 W., Hydrologic Unit 03140102, south of State Highway 30A near Oyster Lake, 0.8 mi west of State Highway 393 and 1.9 mi southwest of Santa Rosa Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public-supply, artesian well, diameter 4 in., depth and casing length unknown.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing at land-surface datum.

DATUM.--Elevation of land-surface datum is 6 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--
ELEVATIONS: June 1968 to August 1970 (bimonthly); July 1974 (annually); March 1975 to current year (bimonthly, discontinued). Records of water levels prior to January 1974 are available in files of the Geological Survey.
WATER QUALITY: May 1975 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.36 ft NGVD, Oct. 29, 1985; lowest measured, -13.72 ft NGVD, July 16, 1980.

ELEVATION, CONDUCTANCE, AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 01...	1155	-1.23	285	14
JAN 05...	1050	0.10	--	--
MAR 08...	1110	0.82	--	--
MAY 03...	1015	0.90	--	--
JUL 05...	1325	0.56	--	--
SEP 06...	1630	-0.18	--	--

WALTON COUNTY

WELL NUMBER.--302221086065201. C. H. McGee, Jr. Well at Point Washington, FL.

LOCATION.--Lat 30°22'21", long 86°06'52", in SW¼NE¼SE¼ sec.26, T.2 S., R.19 W., Hydrologic Unit 03140102, 1.4 mi northeast of intersection of State Highway 395 and U.S. Highway 98 at Point Washington.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 3 in., depth 365 ft, cased to 65 ft.

INSTRUMENTATION.--Pressure gage or tape measured. Measuring point: Top of reducer, 1.5 ft above land-surface datum.

DATUM.--Land-surface datum is 2.30 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--
ELEVATIONS: March 1970 to March 1984 (bimonthly).
WATER QUALITY: July 1961 (annually); January 1962 to May 1967 (semiannually); January 1968 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 17.9 ft NGVD, Nov. 21, 1975 and Jan. 27, 1976; lowest measured, 5.24 ft NGVD, Sept. 12, 1972.

ELEVATION, CONDUCTANCE, TEMPERATURE AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEV-ATION ABOVE NGVD (FEET)	SPE-CIFIC CON-DUC-TANCE (US/CM)	TEMPER-ATURE (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	DATE	TIME	ELEV-ATION ABOVE NGVD (FEET)	SPE-CIFIC CON-DUC-TANCE (US/CM)	TEMPER-ATURE (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV						MAY					
01...	1120	13.16	960	22.0	220	03...	1050	13.36	935	21.5	220
JAN						JUL					
05...	1125	12.96	915	21.5	220	05...	1240	13.16	940	20.5	210
MAR						SEP					
08...	1145	13.16	950	18.5	200	06...	1710	12.56	920	21.0	200

WELL NUMBER.--302228086201902. Holiday Campground Well near Miramar Beach, FL.

LOCATION.--Lat 30°22'28", long 86°20'19", in NW¼NW¼NE¼ sec.34, T.2 S., R.21 W., Hydrologic Unit 03140102, 0.2 mi south of U.S. Highway 98, 3.7 mi east of Okaloosa-Walton County line, 3.5 mi east of Miramar Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public-supply, artesian well, diameter 4 in., depth and casing length unknown.

INSTRUMENTATION.--Tape measured. Measuring point: Top of 4 in. casing at land-surface datum.

DATUM.--Elevation of land-surface datum is 24 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--
ELEVATIONS: July 1978 (annually); November 1978 to current year (bimonthly, discontinued).
WATER QUALITY: 1970 (two samples); 1971 (three samples); November 1971 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.71 ft NGVD, Mar. 16, 1979; lowest measured -33.24 ft NGVD, July 15, 1986.

ELEVATION, CONDUCTANCE, AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEV-ATION ABOVE NGVD (FEET)	SPE-CIFIC CON-DUC-TANCE (US/CM)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	DATE	TIME	ELEV-ATION ABOVE NGVD (FEET)	SPE-CIFIC CON-DUC-TANCE (US/CM)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV					MAY				
02...	1000	-25.98	325	16	03...	0950	-23.30	340	20
JAN					JUL				
05...	1030	-21.80	330	18	05...	1345	-30.01	330	17
MAR					SEP				
08...	1050	-21.04	330	12	06...	1605	-32.72	345	21

WELL NUMBER.--302231086153201. J. A. Holley Well near Santa Rosa Beach, FL.

LOCATION.--Lat 30°22'32", long 86°15'32", in SW¼SW¼SE¼ sec.28, T.2 S., R.20 W., Hydrologic Unit 03140102, behind residence 150 ft north of U.S. 98, 1.75 mi west of Santa Rosa Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, unused, artesian well, diameter 3 in., depth 545 ft cased to 265 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of 2 in. nipple, 0.85 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 12 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--
ELEVATIONS: May 1971 (annually); July 1978 to current year (bimonthly, discontinued).
WATER QUALITY: July 1978 to current year (bimonthly, discontinued).

REMARKS.--Water quality data collected at adjacent well number 302231086153203.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.60 ft NGVD, Mar. 31, 1983; lowest measured, 5.71 ft NGVD, July 12, 1988.

ELEVATION, CONDUCTANCE, AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 01...	1320	8.89	2150	510	MAY 03...	1125	9.65	2220	570
JAN 05...	1335	8.42	2150	560	JUL 05...	1425	9.70	2150	570
MAR 08...	1330	9.55	2250	560	SEP 06...	1730	8.67	2150	550

WELL NUMBER.--302231086214301. M. T. Fontarn Well near Miramar Beach, FL.

LOCATION.--Lat 30°22'31", long 86°21'43", in NE¼NW¼NW¼ sec.33, T.2 S., R.21 W., Hydrologic Unit 03140102, at residence behind Sea and Indian Museum, 2.1 mi east of Okaloosa-Walton county line and 7.2 mi west of Santa Rosa Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 420 ft, cased to 350 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing at land-surface datum.

DATUM.--Elevation of land-surface datum is 23 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--
ELEVATIONS.--June 1968 to September 1970 (bimonthly); July 1974 (annually); March 1975 to current year (bimonthly, discontinued). Records of water levels prior to January 1974 are available in files of the Geological Survey.
WATER QUALITY.--July 1968 to August 1969 (bimonthly); 1970 (two samples); March 1975 to July 1988 (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.92 ft NGVD, June 5, 1968; lowest measured, -40.15 ft NGVD, Sept. 6, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 02...	0950	-34.18	MAY 03...	0940	-30.49
JAN 05...	1020	-30.16	JUL 05...	1400	-37.25
MAR 08...	1030	-29.08	SEP 06...	1550	-40.15

WELL NUMBER.--302308086103402. Walter Dannelly Well near Santa Rosa Beach, FL.

LOCATION.--Lat 30°23'08", long 86°10'34", in SE¼NE¼NW¼ sec.29, T.2 S., R. 19 W., Walton County, Hydrologic Unit 03140102, in front of residence 0.4 mi east of U.S. Highway 331, and 3.0 mi northeast of Santa Rosa Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth and length of casing unknown.

PERIOD OF RECORD.--January 1978 to current year (bimonthly, discontinued).

CONDUCTANCE AND CHLORIDE DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 01...	1100	2300	640	MAY 03...	1140	2300	630
JAN 05...	1140	2250	640	JUL 05...	1505	2280	620
MAR 08...	1200	2350	650	SEP 06...	1825	2280	620

WELL NUMBER.--302357086100701. Florida Department of Transportation Well near Santa Rosa Beach, FL.

LOCATION.--Lat 30°23'57", long 86°10'07", in SW¼NW¼NE¼ sec.20, T.2 S., R.19 W., Hydrologic Unit 03140102, near south end of U.S. Highway 331 bridge over Choctawhatchee Bay, 2.4 mi north of U.S. Highway 98, and 3.8 mi northeast of Santa Rosa Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 3 in., depth 337 ft, casing length unknown.

INSTRUMENTATION.--Pressure gage or tape measured. Measuring point: Top of coupling 1.10 ft above land-surface datum.

DATUM--Land-surface datum is 5.00 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--
ELEVATIONS: April 1961 to July 1962, May 1968 to May 1969, April 1970 to current year (bimonthly).
WATER QUALITY: July 1961 (annually); January 1962 to May 1967 (semiannually); January 1968 to July 1969 (bimonthly); June 1970 (annually); 1971 (three samples); November 1971 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.80 ft NGVD, Feb. 28, 1962; lowest measured, 0.86 ft NGVD, Oct. 11, 1972.

ELEVATION, CONDUCTANCE, TEMPERATURE AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 01...	1045	9.09	2120	22.0	570	MAY 03...	1145	9.35	2150	22.0	600
JAN 05...	1150	9.07	2100	20.0	580	JUL 05...	1510	9.43	2100	22.5	600
MAR 08...	1210	9.04	2180	22.5	570	SEP 08...	1025	8.52	2100	22.5	580

WELL NUMBER.--302442086130701. S. L. Matthews Well near Santa Rosa Beach, FL.

LOCATION.--Lat 30°24'42", long 86°13'07", in NE¼SW¼SW¼ sec.14, T.2 S., R.20 W., Hydrologic Unit 03140102, in front of residence 0.9 mi northeast of SR 393 about 3 mi north of Santa Rosa Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 8 in., depth 330 ft, cased to 165 ft.

INSTRUMENTATION.--Pressure gage or tape measured. Measuring point: Top of 3 in casing, 1.0 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 5 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--
ELEVATIONS: September 1969 (annually); July 1978 to current year (bimonthly, discontinued).
WATER QUALITY: September 1969 (annually); July 1978 to May 1984 (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.53 ft NGVD, Mar. 21, 1979; lowest measured, 1.27 ft NGVD, July 12, 1988.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 01...	1220	2.34	MAY 03...	1110	3.14
JAN 05...	1320	2.80	JUL 05...	1450	2.76
MAR 08...	1320	3.12	SEP 06...	1800	1.48

WELL NUMBER.--302637085543301. William Wilson Well near Bruce, FL.

LOCATION.--Lat 30°26'37", long 85°54'33", in NE¼SE¼SE¼ sec.35, T.1 N., R.17 W., Hydrologic Unit 03140203, at Cowford Fish Camp, 0.7 mi south of State Highway 20, and 3.8 mi southeast of Bruce.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 3 in., depth 196 ft, cased to 60 ft.

INSTRUMENTATION.--Pressure gage. Measuring point: Top of reducer, 0.80 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 16 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--
ELEVATIONS: June 1968 to current year (bimonthly).
WATER QUALITY: June 1968 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.20 ft NGVD, Nov. 21, 1975; lowest measured, 16.75 ft NGVD, Oct. 12, 1972.

ELEVATION, CONDUCTANCE, TEMPERATURE AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 09...	1615	22.23	113	21.0	4.5	MAY 03...	1605	22.36	114	21.5	2.9
JAN 10...	1350	21.72	110	17.5	2.1	JUL 12...	1545	23.20	114	22.0	3.2
MAR 24...	1015	21.43	114	20.5	3.4	SEP 18...	1150	21.72	110	22.0	3.3

WALTON COUNTY

WELL NUMBER.--302721086101401. Selma Madara Well near Freeport, FL.

LOCATION.--Lat 30°27'21", long 86°10'14", in SW¼NE¼NW¼ sec.32, T.1 S., R.19 W., Hydrologic Unit 03140102, near the west bank at mouth of Bear Creek, and 3.5 mi southwest of Freeport.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, industrial, artesian well, diameter 12 in., depth 250 ft, cased to 100 ft.

INSTRUMENTATION.--Pressure gage or tape measured. Measuring point: Top of tee, 2.0 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 4 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--
ELEVATIONS: July 1968 to current year (bimonthly). Records of water levels prior to January 1974 are available in files of the Geological Survey.
WATER QUALITY.--August 1968 to May 1969 (bimonthly); 1970 (two samples); 1971 (three samples); 1972 (semiannually); January 1973 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.0 ft NGVD, Mar. 22, 1976; lowest measured, -7.73 ft NGVD, Oct. 11, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--A water level of 27 ft NGVD, was reported by Frank Westendick in 1931, month unknown.

ELEVATION, CONDUCTANCE, TEMPERATURE AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 02...	1125	11.80	560	20.5	100	MAY 03...	1640	12.30	560	21.5	100
JAN 03...	1240	11.80	550	20.0	100	JUL 07...	0900	11.70	545	22.0	99
MAR 06...	1315	12.30	580	18.0	100	SEP 08...	0945	11.40	540	22.5	100

WELL NUMBER.--302746086232101. Ray Wright Well at Villa Tasso, FL.

LOCATION.--Lat 30°27'46", long 86°23'21", in SE¼SW¼NW¼ sec.30, T.1 S., R.21 W., Hydrologic Unit 03140102, 0.5 mi east of Okaloosa-Walton County line at Villa Tasso Kennels at Villa Tasso.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 440 ft, cased to 220 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of sanitary seal 1.0 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 19 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--
ELEVATIONS: March 1978 to July 1979 (semiannually); November 1980 to current year (bimonthly, discontinued).
WATER QUALITY: July 1979 (annually); 1981 (semiannually); November 1981 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.75 ft NGVD, Mar. 29, 1978; lowest measured, -24.44 ft NGVD, Sept. 8, 1989.

ELEVATION, CONDUCTANCE AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 02...	1300	-21.50	240	2.4	MAY 03...	1725	-17.85	245	2.8
JAN 03...	1330	-18.58	240	2.6	SEP 08...	0850	-24.44	240	2.8
MAR 06...	1400	-17.93	250	2.8					

WALTON COUNTY

WELL NUMBER.--302840086044301. Thomas Miller Well near Freeport, FL.

LOCATION.--Lat 30°28'40", long 86°04'43", in NE¼NE¼NW¼ sec.32, T.1 N., R.18 W., Hydrologic Unit 03140102, at private residence, 2.6 mi east of intersection of State Highway 20 and U.S. Highway 331, 4.0 mi east of Freeport.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL DESCRIPTION.--Drilled, domestic, artesian well, diameter 4 in., depth 200 ft, length of casing unknown.

INSTRUMENTATION.--Tape measured. Measuring point: Top of sanitary seal, 1.0 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 40 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--
ELEVATIONS: 1978 (two measurements); 1979 (three measurements); November 1980 to September 1981 (bimonthly, discontinued).
WATER QUALITY: 1978, 1979 (annually); May 1981 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.71 ft NGVD, Mar. 15, 1978; lowest measured, 6.62 ft NGVD, July 11, 1979.

ELEVATION, CONDUCTANCE, AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 03...	1415	15.90	215	2.8	MAY 03...	1310	16.07	230	3.2
JAN 03...	1140	16.06	215	2.6	JUL 05...	1610	16.30	220	3.3
MAR 06...	1145	15.78	225	2.7	SEP 05...	1340	15.58	205	2.5

WELL NUMBER.--302841086195201. R. E. Lalonde Well at Choctaw Beach, FL.

LOCATION.--Lat 30°28'41", long 86°19'52", in SW¼NE¼SE¼ sec.22, T.1 S., R.21 W., Hydrologic Unit 03140102, 75 ft north of State Highway 20, 200 ft north of wayside park and 1.2 mi east of Choctaw Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 4 in., depth 316 ft, cased to 132 ft.

INSTRUMENTATION.--Pressure gage. Measuring point: Top of casing, 2.0 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 2 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--
ELEVATIONS: December 1969, July 1974 (annually); March 1975 to current year (bimonthly, discontinued).
QUALITY WATER: May 1975 to March 1984 (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.4 ft NGVD, Mar. 4, 1976; lowest measured, -6.90 ft NGVD, Sept. 8, 1989.

ELEVATION, IN FEET, NGVD, WATER YEAR, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 02...	1250	-5.66	MAY 03...	1715	-3.48
JAN 03...	1320	-4.24	JUL 07...	0835	-4.90
MAR 06...	1345	-2.75	SEP 08...	0910	-6.90

WELL NUMBER.--302935086074501. Local Number 17. City of Freeport Well at Freeport, FL.

LOCATION.--Lat 30°29'13", long 86°08'12", in SW¼SE¼SW¼ sec.15, T.1 S., R.19 W., Hydrologic Unit 03140102, 81 ft east-northeast of Fourmile Creek and 381 ft north-northwest of confluence of Fourmile and Lafayette Creek, and 0.4 mi southeast of City Hall at Freeport.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 8 in., depth 187 ft, casing length unknown.

INSTRUMENTATION.--Pressure gage or tape measured. Measuring point: Top of tee, 3.50 ft above land-surface datum.

DATUM.--Land-surface datum is 2.70 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--
ELEVATIONS: September 1947 to October 1963 (bimonthly); June 1969 (annually); September 1974 to current year (bimonthly).
WATER QUALITY: November 1974 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.7 ft NGVD, Sept. 3, 1947; lowest measured, -1.60 ft NGVD, June 18, 1969.

ELEVATION, CONDUCTANCE, TEMPERATURE AND CHLORIDE DATA, OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 02...	1110	16.20	180	20.5	1.9
JAN 03...	1220	16.00	175	20.0	1.7
MAR 06...	1250	16.20	182	19.0	2.2
MAY 03...	1615	16.60	180	21.5	2.0
JUL 05...	1635	16.40	180	21.5	2.1
SEP 08...	1005	15.60	180	22.0	2.1

WELL NUMBER.--303214085580401. Local Number FAF No. 72. First American Farms Well near Bruce, FL.

LOCATION.--Lat 30°32'14", long 85°58'04", in SW¼SE¼NW¼ sec.32, T.2 N., R.17 W., Hydrologic Unit 03140203, about 4 mi southwest of Redbay and about 4.5 mi north of Bruce.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, irrigation, artesian well, diameter 10 in., depth 506 ft, cased to 218 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 0.50 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 123 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--September 1968 to November 1970; November 1970 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.01 ft NGVD, Nov. 21, 1975; lowest, -51.20 ft NGVD, July 13, 1970.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT 31...	1640	28.00
JAN 03...	1010	27.43
MAR 06...	1120	27.67
MAY 03...	1430	28.35
JUL 05...	1100	29.33
SEP 05...	1310	28.55

WELL NUMBER.--303426086061101. Local Number FAF No. 2. First American Farms Well near Freeport, FL.

LOCATION.--Lat 30°34'26", long 86°,06'11", in NE¼NW¼NW¼ sec.24, T.1 N., R.19 W., Hydrologic Unit 03140102, 0.2 mi east of U.S. Highway 331, 1 mi north of clay road, and 5.5 mi north of Freeport.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, irrigation, artesian well, diameter 10 in., depth 440 ft, cased to 172 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing at land-surface datum. Prior to October 7, 1970 water-level recorder at same site and datum.

DATUM.--Land-surface datum is 153.46 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--September 1968 to October 1970; November 1970 to current year (bimonthly, discontinued). Records of water levels prior to January 1974 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.33 ft NGVD, Nov. 20, 1975; lowest measured, -45.25 ft NGVD, Oct. 11, 1972.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT			MAY		
31...	1605	37.96	03...	1505	38.70
JAN			JUL		
03...	1045	38.21	05...	0955	39.09
MAR			SEP		
06...	1040	38.33	05...	1040	38.94

WELL NUMBER.--303545086064601. U.S. Air Force Rock Hill Tower Well at Rock Hill, FL.

LOCATION.--Lat 30°35'45", long 86°06'46", in NE¼NW¼SE¼ sec.11, T. 1 N., R.19 W., Hydrologic Unit 03140102, Rock Hill Tower at Rock Hill, 0.1 mi north of intersection of U.S. Highway 331 and State Highway 282, and 7 mi north of Freeport.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 440 ft, cased to 248 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 0.60 ft above land-surface datum.

DATUM.--Land-surface datum is 210.50 ft above National Geodetic Vertical Datum of 1929.

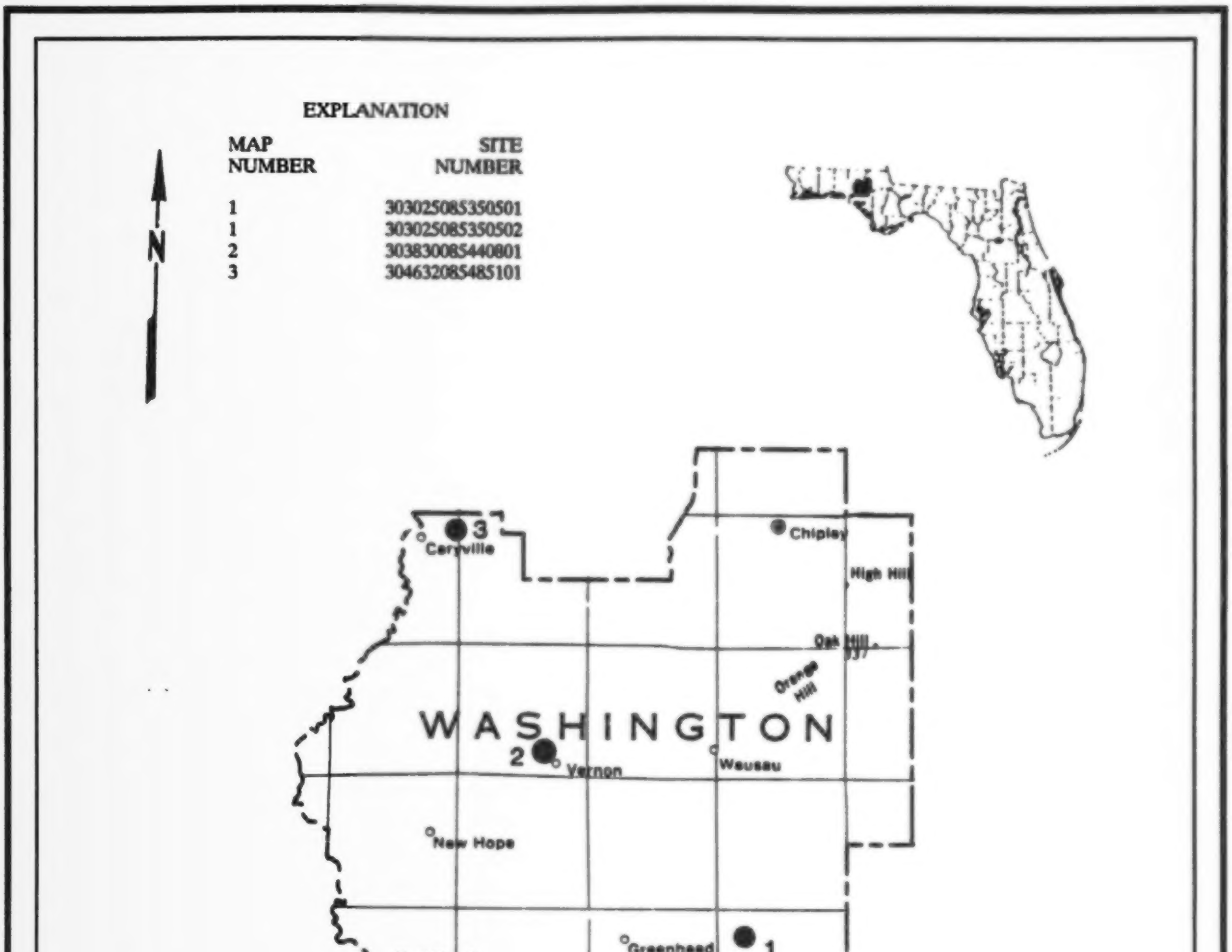
PERIOD OF RECORD.--June 1968 to current year (bimonthly, discontinued).

REMARKS.--Water levels affected by nearby irrigation pumpage.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured 77.60 ft NGVD, Mar. 30, 1983; lowest measured, 8.22 ft NGVD, June 26, 1969.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
OCT			MAY		
31...	1550	47.38	03...	1525	47.75
JAN			JUL		
03...	1105	47.27	05...	0940	48.12
MAR			SEP		
06...	1025	47.40	05...	1025	48.05



EXPLANATION

MAP NUMBER	SITE NUMBER
1	303025085350501
1	303025085350502
2	303830085440801
3	304632085485101

N
WASHINGTON
3
Caryville
Chipley
High Hill
Oak Hill
Orange Hill
2
Vernon
Wausau
New Hope
Greenhead
1
Red Head
Crystal Lake
Ebro
0 5 10 MILES

Figure 51.--Location of wells in Washington County.

WELL NUMBER.--303025085350501. Local Number 422A. U.S. Geological Survey Observation Well near Wausau, FL.

LOCATION.--Lat 30°30'25", long 85°35'05", in SE¼NW¼NW¼ sec.7, T.1 N., R.13 W., Hydrologic Unit 03140101, 0.6 mi east of road to Deadening Cemetery, 4.2 mi east of State Highway 77, and 8.6 mi south of Wausau.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 150 ft, cased to 110 ft.

INSTRUMENTATION.--Water-level recorder. Measuring point: Top of recorder shelf, 2.90 ft above land-surface datum.

DATUM.--Land-surface datum is 66.11 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--1962 to current year (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 65.75 ft NGVD, Oct. 1, 2, 1979; lowest, 48.19 ft NGVD, Feb. 13, 14, 1969.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	60.37	60.06	59.94	59.41	58.79	58.91	59.38	59.08	58.49	63.54	65.12	65.27
10	60.33	59.94	59.81	59.33	58.87	58.77	59.34	58.91	60.41	63.90	65.08	65.21
15	60.21	59.85	59.89	59.30	58.74	58.60	59.34	58.74	60.67	64.34	65.08	---
20	60.10	60.19	59.76	59.18	58.61	58.45	59.23	58.57	61.59	64.69	65.13	---
25	59.96	60.21	59.62	59.05	58.94	59.37	59.11	58.60	62.47	65.07	65.07	---
EOM	59.98	60.09	59.53	58.92	58.92	59.36	58.98	58.49	62.99	65.16	65.17	---
MAX	60.37	60.26	60.06	59.53	58.94	59.37	59.38	59.14	62.99	65.16	65.18	---

CAL YR 1988 MAX 61.09

WELL NUMBER.--303025085350502. Local number 030-535-422B. U.S. Geological Survey Observation Well near Wausau, FL.

LOCATION.--Lat 30°30'25", long 85°35'05", in SE¼NW¼NW¼ sec.7, T.1 N., R.13 W., Hydrologic Unit 03140101, 0.6 mi east of road to Deadening Cemetery, 4.2 mi east of State Highway 77, and 8.6 mi south of Wausau.

AQUIFER.--Nonartesian sand aquifer of the Tertiary System, Geologic Unit 120 NRSD.

WELL CHARACTERISTICS.--Drilled, observation well, diameter 2 in., depth 26 ft, cased to 23 ft, screened from 23 to 26 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 2.80 ft above land-surface datum.

DATUM.--Land-surface datum is 67.48 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--September 1962 to current year (bimonthly, discontinued). Records of water levels prior to January 1974 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 66.21 ft NGVD, Feb. 20, 1964; lowest measured, 58.55 ft NGVD, Nov. 7, 1972.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV			MAY		
09...	1520	63.45	02...	1530	64.51
JAN			JUL		
10...	1510	63.29	11...	1235	64.72
MAR			SEP		
07...	1150	62.43	18...	1505	65.49

WELL NUMBER.--303830085440801. Wayne Weber Well near Vernon, Fl.

LOCATION.--Lat 30°38'30", long 85°44'08", in SW¼NW¼NW¼ sec.27, T.3 N., R.15 W., Hydrologic Unit 03140203, about 60 ft east of dirt farm road, 0.2 mi south of county road 170 and 1.6 mi northwest of Vernon.

AQUIFER.--Floridan Aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian, stock well, diameter 4 in., depth and casing length unknown.

INSTRUMENTATION.--Tape measured. Measuring point: Top of sanitary seal, 0.50 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 50 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--January 1983 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured 33.84 ft NGVD, Mar. 29, 1983; lowest measured 26.78 ft NGVD, Dec. 10, 1984.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 09...	1425	30.25	MAY 02...	1630	30.60
JAN 10...	1310	28.70	JUL 11...	1350	32.97
MAR 07...	1325	28.86	SEP 18...	1530	32.52

WELL NUMBER.--304632085485101. Local number 4. Town of Caryville Well at Caryville, FL.

LOCATION.--Lat 30°46'32", long 85°48'51", in NW¼NE¼NW¼ sec.11, T.4 N., R.16 W., Hydrologic Unit 03140203, at lumber mill, 0.1 mi north of U.S. Highway 90 at Caryville.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public-supply, artesian well, diameter 4 in., depth 785 ft, casing length unknown.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 1.00 ft above land-surface datum.

DATUM.--Land-surface datum is 62.97 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--September 1946 to current year (bimonthly, discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 56.17 ft NGVD, Mar. 9, 1966; lowest measured, 44.99 ft NGVD, Nov. 23, 1952.

EXTREMES OUTSIDE PERIOD OF RECORD.--A water-level of 62.97 ft NGVD, was reported by driller, Dec. 12, 1935.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ELEVATION ABOVE NGVD (FEET)	DATE	TIME	ELEVATION ABOVE NGVD (FEET)
NOV 09...	1205	50.85	MAY 03...	0700	51.68
JAN 10...	1150	49.98	JUL 11...	1425	52.34
MAR 22...	1255	50.91	SEP 19...	0730	51.91

MISCELLANEOUS WATER LEVEL MEASUREMENTS

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1988 TO SEPTEMBER 1989

STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV-ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO-LOGIC UNIT
	BAKER					
302251082194901	B-25 ONF #6 FLORIDAN WELL NEAR TAYLOR, FL.	05-22-89	48.61	--	128.00	120FLRD
	BAY					
300347085345501	LOCAL NO. 003534113	11-10-88	0.69	27.16	28.00	120FLRD
		05-04-89	1.55	26.30	28.00	
301550085355801	LOCAL NO.015-535-113	11-10-88	9.06	-1.28	7.80	120FLRD
		05-04-89	8.50	-0.72	7.80	
	CALHOUN					
301437085114901	LOCAL NO.014-511-1	11-08-88	39.20	-7.50	31.70	120FLRD
		05-05-89	37.36	-5.66	31.70	
302525085175701	ROBERT MAYO/MAYO OKALOOSA ASPHALT	11-08-88	107.41	15.59	123.00	--
303024085024701	STAFFORD CR WELL N OF BLOUNTSTOWN,FL	11-08-88	60.08	29.92	90.00	120FLRD
		05-05-89	60.13	29.87	90.00	
	ESCAMBIA					
302220087205001	USGS TH11 DOG TRACK RD.	10-24-88	--	13.69	22.00	120NFSG
		12-26-88	--	13.81	22.00	
		02-27-89	--	14.25	22.00	
		04-29-89	--	14.90	22.00	
		06-26-89	--	14.87	22.00	
		08-26-89	--	15.13	22.00	
302541087114502	USGS THIA-17TH&GONZALEZ	10-24-88	--	55.61	62.00	120NFSG
		12-26-88	--	56.19	62.00	
		02-27-89	--	57.03	62.00	
		04-29-89	--	57.59	62.00	
		06-26-89	--	57.31	62.00	
		08-26-89	--	56.26	62.00	
303208087241101	USGS OBS.WELL 032-724-1	01-24-89	30.58	92.85	123.00	120NFSG
		03-17-89	30.24	93.19	123.00	
		05-25-89	30.16	93.27	123.00	
		07-26-89	31.27	92.16	123.00	
		09-21-89	30.73	92.70	123.00	
	FRANKLIN					
294337084532401	MCCULLOGH PROPERTIES,INC. WELL AT EASTPOINT, FL	11-10-88	8.81	-2.81	6.00	120FLRD
		07-06-89	8.30	-2.30	6.00	
295046084394301	FRANKLIN NO 10	11-14-88	3.38	1.68	5.10	120FLRD
		05-04-89	3.06	2.00	5.10	
	GADSDEN					
304056084502501	CITY OF CHATTAHOOCHEE ABAND WELL NR CHATTAHOOCHE	11-04-88	58.60	59.40	118.00	120FLRD
		05-02-89	59.81	58.19	118.00	
	HOLMES					
304626085410301	KINGDOM HALL AT BONIFAY FL	11-09-88	105.75	23.25	129.00	120FLRD
		01-31-89	104.74	24.26	129.00	
		03-22-89	104.81	24.19	129.00	
		05-03-89	105.01	23.99	129.00	
		07-11-89	105.83	23.17	129.00	
		09-19-89	106.31	22.69	129.00	
305119085561901	LOCAL NO.051-556-1	11-09-88	77.22	208.46	286.00	120FLRD
		05-03-89	77.50	208.18	286.00	
305828085350901	HOLMES 7 BUSH	11-09-88	158.98	15.30	174.00	120FLRD
		05-02-89	159.57	14.71	174.00	

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1988 TO SEPTEMBER 1989

STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV-ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO-LOGIC UNIT
	JACKSON					
304142085214101	BRADY FORAN WELL NR ALFORD, FL	11-08-88	70.18	36.82	107.00	120FLRD
		05-02-89	69.40	37.60	107.00	
304746085223201	CITY OF COTTONDALE NO.3, COTTONDALE, FL	11-08-88	108.75	24.25	133.00	--
		05-02-89	109.30	23.70	133.00	
304918084565601	NORTH OF SNEADS	11-04-88	88.15	21.85	110.00	120FLRD
		05-02-89	88.79	21.21	110.00	
304918085124201	RETTIG N. OF MARIANNA	11-04-88	73.04	26.96	100.00	120FLRD
		05-02-89	74.57	25.43	100.00	
305353085273101	LOCAL NO. 053-527-1	05-02-89	104.02	90.57	195.00	120FLRD
305837085034201	HAGLER WELL NEAR MALONE FL	11-04-88	98.25	31.75	130.00	120FLRD
		05-02-89	95.90	34.10	130.00	
305947085243001	WELCOME STAT. N OF CAMBELLTON	11-08-88	135.04	16.96	152.00	120FLRD
		05-02-89	135.36	16.64	152.00	
	LEON					
301801084144501	ROY WHITTINGTON WELL NR WOODVILLE,FL	11-30-88	6.19	27.81	34.00	120FLRD
		05-09-89	5.86	28.14	34.00	
302518084192401	LOCAL NO.025-419-441	11-07-88	20.94	68.92	89.90	120FLRD
		05-09-89	19.05	70.77	89.90	
		09-08-89	23.28	66.58	89.90	
303447084072401	LOCAL NO.034-407-1	11-07-88	51.72	170.98	223.00	120FLRD
		05-09-89	49.38	173.32	223.00	
	LIBERTY					
300152084592701	LOCAL NO.001-459-1	11-14-88	24.12	5.38	29.50	120FLRD
300813084555701	PLACID OIL CO SUPPLY WELL	11-14-88	47.25	4.75	52.00	120FLRD
		05-23-89	46.01	5.99	52.00	
302823084560601	ST. JOE PAPER CO. WELL N. OF BRISTOL,FLA.	11-07-88	127.79	86.71	214.00	120FLRD
		05-05-89	127.20	87.30	214.00	
	OKALOOSA					
303021086351601	B-4204 EGLIN 27 FLD 4-2	11-03-88	-42.32	131.65	89.30	120FLRD
		01-05-89	-38.35	127.68	89.30	
		03-07-89	-36.47	125.80	89.30	
		05-04-89	-41.44	130.77	89.30	
		07-06-89	-43.67	133.00	89.30	
303745086442101	B-6204 EGLIN 31	11-03-88	10.65	124.35	135.00	120FLRD
		05-04-89	11.24	123.76	135.00	
304518086334001	CRESTVIEW NO 4	11-01-88	63.37	166.63	230.00	120FLRD
		05-02-89	61.67	168.33	230.00	
304801086403101	BAKER NO 1	11-01-88	63.78	181.22	245.00	120FLRD
		05-01-89	64.67	180.33	245.00	
305530086322701	W.D.FLOURNOY JR. WELL	10-31-88	153.60	25.40	179.00	120FLRD
		05-01-89	153.63	25.37	179.00	
305615086284801	FLA FOR.SER. LAUREL HILL	10-31-88	170.54	119.46	290.00	120FLRD
		05-01-89	170.32	119.68	290.00	
	WAKULLA					
300540084174001	WAKULLA 19	11-14-88	5.76	3.23	9.00	120FLRD
		05-08-89	5.10	3.89	9.00	
300917084121301	LOCAL NO.2 ST. MARKS	11-30-88	1.48	2.27	3.80	120FLRD
		05-09-89	1.80	1.95	3.80	

STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV-ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO-LOGIC UNIT
	WAKULLA--Continued					
301115084241201	ARRAN WORK CENTER	11-14-88	27.98	7.02	35.00	120FLRD
		05-08-89	27.42	7.58	35.00	
3011156084103501	LOCAL NO.011-410-1	11-30-88	5.52	1.44	7.00	120FLRD
		05-09-89	5.37	1.59	7.00	
	WALTON					
303053086075301	J M THOMPSON WELL	11-01-88	17.42	42.37	59.80	120FLRD
		05-03-89	17.76	42.03	59.80	
303434086130301	B-8631 EGLIN AFB	11-02-88	32.74	107.80	141.00	120FLRD
303454085560601	WELL 43	11-03-88	25.33	150.67	176.00	120FLRD
		05-03-89	26.41	149.59	176.00	
304334086032401	ARGYLE TOWER FFS	11-09-88	85.16	175.84	261.00	120FLRD
		05-03-89	83.82	177.18	261.00	
304358086120801	BSA CAMP LK EUCHEE WELL	10-31-88	121.36	152.64	274.00	120FLRD
		05-01-89	121.95	152.05	274.00	
305043086083301	RAY PETER WELL	10-31-88	184.18	94.82	279.00	120FLRD
		05-01-89	186.48	92.52	279.00	
305110086164801	C GEOGHAGAN WELL	12-09-88	172.55	82.45	255.00	120FLRD
		05-31-89	172.47	82.53	255.00	
305247086030901	WELL 52	11-09-88	115.37	189.40	305.00	120FLRD
305359086122602	NWF MONITOR WELL AT JACKSON STILL TOWER, FL	10-31-88	202.48	67.52	270.00	120FLRD
		05-01-89	202.97	67.03	270.00	
305804086180901	FLA WELCOME STA PAXTON	10-31-88	214.16	109.84	324.00	120FLRD
		05-01-89	215.15	108.85	324.00	
	WASHINGTON					
304441085331101	I-10/SR77 S OF CHIPLEY	11-09-88	56.10	66.90	123.00	120FLRD
		05-02-89	55.67	67.33	123.00	

A

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ALLIGATOR CREEK AT STARKE, FL 144
APALACHICOLA RIVER AT CHATTAHOOCHEE, FL 88
APALACHICOLA RIVER NEAR BLOUNTSTOWN, FL 95
APALACHICOLA RIVER NEAR SUMATRA, FL 102
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October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	$2.54x10^{1}$	millimeters (mm)
	$2.54x10^{-2}$	meters (m)
feet (ft)	$3.048x10^{-1}$	meters (m)
miles (mi)	$1.609x10^{0}$	kilometers (km)
	Area	
acres	$4.047x10^{3}$	square meters (m^{2})
	$4.047x10^{-1}$	square hectometers (hm^{2})
	$4.047x10^{-3}$	square kilometers (km^{2})
square miles (mi^{2})	$2.590x10^{0}$	square kilometers (km^{2})
	Volume	
gallons (gal)	$3.785x10^{0}$	liters (L)
	$3.785x10^{0}$	cubic decimeters (dm^{3})
	$3.785x10^{-3}$	cubic meters (m^{3})
million gallons	$3.785x10^{3}$	cubic meters (m^{3})
	$3.785x10^{-3}$	cubic hectometers (hm^{3})
cubic feet (ft^{3})	$2.832x10^{1}$	cubic decimeters (dm^{3})
	$2.832x10^{-2}$	cubic meters (m^{3})
cfs-days	$2.447x10^{3}$	cubic meters (m^{3})
	$2.447x10^{-3}$	cubic hectometers (hm^{3})
acre-feet (acre-ft)	$1.233x10^{3}$	cubic meters (m^{3})
	$1.233x10^{-3}$	cubic hectometers (hm^{3})
	$1.233x10^{-6}$	cubic kilometers (km^{3})
	Flow	
cubic feet per second (ft^{3}/s)	$2.832x10^{1}$	liters per second (L/s)
	$2.832x10^{1}$	cubic decimeters per second (dm^{3}/s)
	$2.832x10^{-2}$	cubic meters per second (m^{3}/s)
gallons per minute (gal/min)	$6.309x10^{-2}$	liters per second (L/s)
	$6.309x10^{-2}$	cubic decimeters per second (dm^{3}/s)
	$6.309x10^{-5}$	cubic meters per second (m^{3}/s)
million gallons per day	$4.381x10^{1}$	cubic decimeters per second (dm^{3}/s)
	$4.381x10^{-2}$	cubic meters per second (m^{3}/s)
	Mass	
tons (short)	$9.072x10^{-1}$	megagrams (Mg) or metric tons

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